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June 10, 2005

Mrs. Brenda Jones
Remedial Project Manager
U.S. Environmental Protection Agency
77 W. Jackson Blvd. SR-6J
Chicago, Illinois 60604

Subject: Removal Assessment Report
Vacant Lot Site
North Chicago, Lake County, Illinois
Technical Direction Document No. S05-0302-017
Tetra Tech Contract No. 68-W-00-129

Dear Mrs. Jones:

T N & Associates, Inc. (TN&A), a subcontractor for the Tetra Tech EM Inc. Superfund Technical Assessment and Response Team (START), is submitting the enclosed Removal Assessment Report for the Vacant Lot site in North Chicago, Illinois. If you have any questions or comments about the report, please contact me at (312) 220-7000.

Sincerely,

Raghu Nagam
Project Manager

Enclosure

cc: Lorraine Kosik, START Program Officer
Therese Gioia, START Program Manager

**REMOVAL ASSESSMENT REPORT
VACANT LOT SITE
NORTH CHICAGO, LAKE COUNTY, ILLINOIS**

Prepared for:

**U.S. ENVIRONMENTAL PROTECTION AGENCY
Region 5 Emergency Response Branch
77 West Jackson Boulevard
Chicago, IL 60604**

TDD No.:	S05-0302-017
Date Prepared:	June 10, 2005
Contract No.:	68-W-00-129
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1.0 INTRODUCTION

T N & Associates, Inc. (TN&A), a subcontractor for the Tetra Tech EM Inc. Superfund Technical Assessment and Response Team (START), has prepared this removal assessment report in accordance with the requirements of U.S. Environmental Protection Agency (U.S. EPA) Technical Direction Document (TDD) No. S05-0302-017. START was tasked to conduct removal assessment activities at the Vacant Lot site in North Chicago, Lake County, Illinois. As part of the removal assessment-activities START was tasked to prepare a health and safety plan, a sampling plan, and to conduct a removal assessment, including installation of soil borings, soil and groundwater sampling, air monitoring, documentation of on-site conditions with written logbook notes and photographs using a still camera (see Appendix A), analytical data validation (see Appendix B), and preparation of a removal assessment report.

The removal assessment was performed in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) as documented in Title 40 of the *Code of Federal Regulations* (CFR), Section 300.415(b)(2), to evaluate site conditions and possible threats to human health, public welfare, and the environment. This report discusses the site background, removal assessment activities, sample analytical results, potential site-related threats, recommended actions and estimated costs, and includes a summary of the removal assessment. Appendix A contains a photographic log of site activities, Appendix B contains the validated analytical data package for samples collected by START, and Appendix C contains removal cost projection.

2.0 SITE BACKGROUND

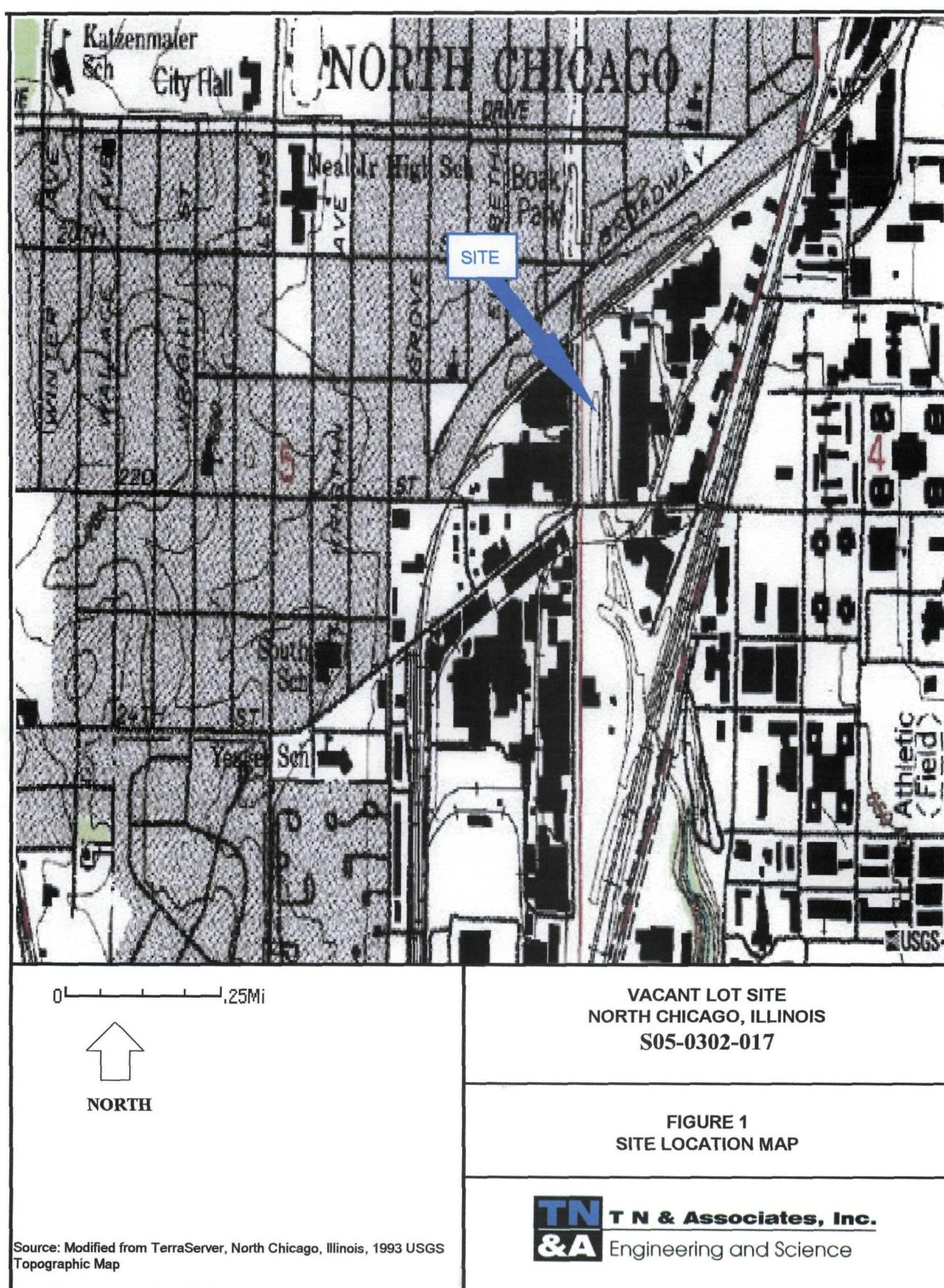
The Vacant Lot site (a.k.a the Vulcan Louisville Smelting Company) is located at the corner of Commonwealth Avenue and 22nd Street (Martin Luther King Jr. Drive), in North Chicago, Lake County, Illinois (see Figure 1). The site is bordered by the Elgin, Joliet & Eastern (EJ & E) Railroad to the north, Martin Luther King Jr. Drive to the south, Commonwealth Avenue to the east, and the Fansteel facility to the west. The site is located in a residential and industrial area occupying approximately 6.4 acres (see Figure 2). The Pettibone Creek transects the site originating in the northwest corner and flows south. The site topography is generally flat, except the creek ravine and the elevated railway bed located on the northern boundary of the site.

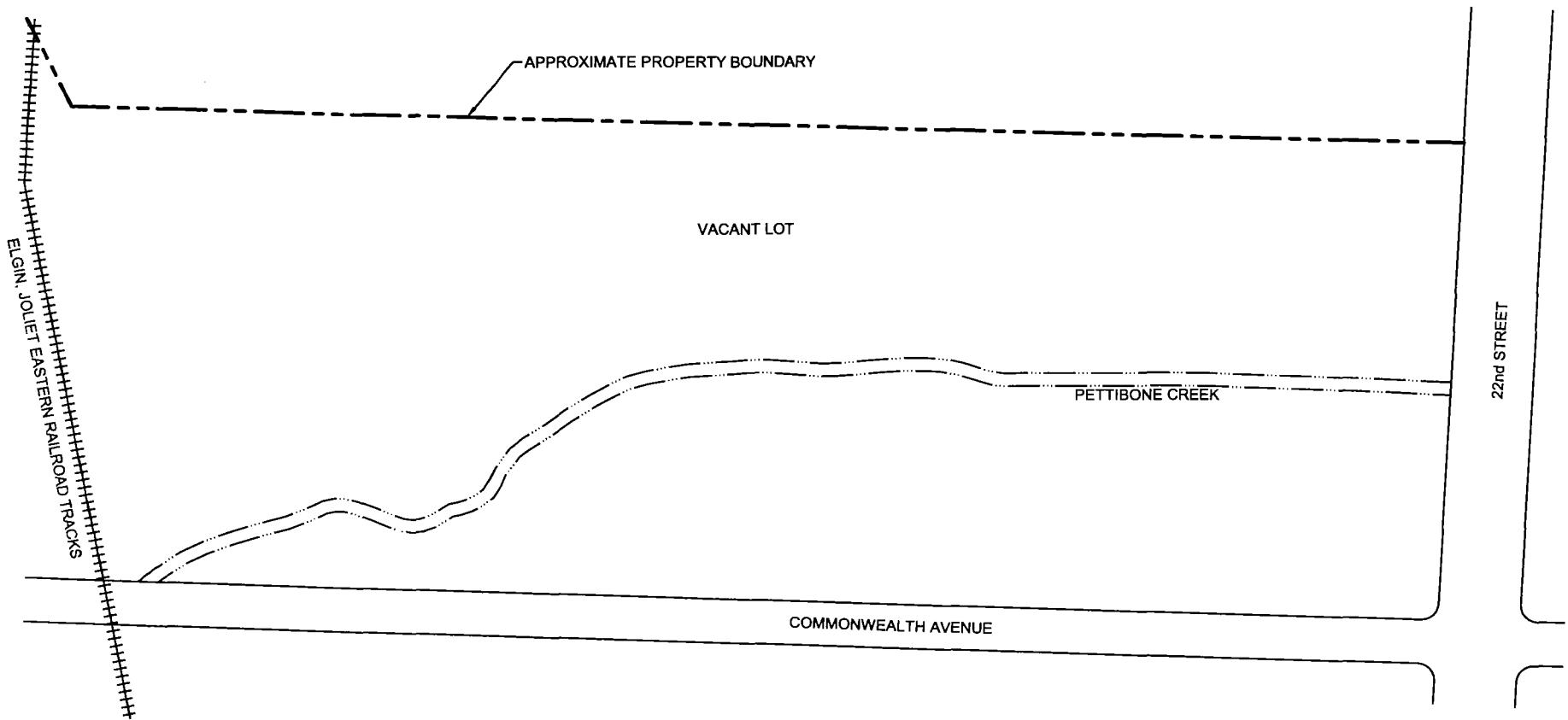
On June 12, 1988 the City of North Chicago HAZMAT team responded to a underground fire originating from a grass fire at the site. Due to the temperature and nature of the underground fire the Illinois Environmental Protection Agency (IEPA) was notified. The IEPA collected three soil samples and analyzed for heavy metals by the extraction procedure toxicity test (EP Tox) Method. Analytical result of a soil sample collected by the IEPA indicated 43.5 milligrams per liter (mg/L) of lead.

Between September 1988 and February 1989, Maecorp was contracted by Kargaganis and White, Ltd., on behalf of Vacant Lot's Trust Management, Northern Illinois Trust Company, to conduct a site assessment consisting of the collection of soil and groundwater samples at the site. Analytical results from this site assessment showed the presence of elevated concentrations of volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), and metals in soil samples and metals in groundwater samples.

Between February and June of 1991, Envirodyne Engineers, Inc. (Envirodyne), on behalf of the City of North Chicago, conducted an environmental site assessment of properties along Commonwealth Avenue, including the site. The site assessment involved the advancement of three soil borings at the site. Analytical results from the site assessment showed elevated concentrations of lead in soil samples.

In November 1993, Geraghty & Miller, Inc. was contracted by Northern Illinois Trust Company, to conduct a site assessment consisting of the collection of groundwater samples at the site. Analytical results from this site assessment showed the presence of elevated concentrations of VOCs, and metals in groundwater samples (E&E 1997).

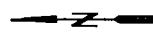




LEGEND

— APPROXIMATE BOUNDARY LOCATION

REFERENCE:
DRAWING PREPARED FROM DRAWING PROVIDED BY
EARTH SCIENCES CONSULTANTS, INC.
FEBRUARY 2003



0 40 80
SCALE IN FEET

FIGURE 2
SITE FEATURES MAP

VACANT SITE
NORTH CHICAGO, ILLINOIS
TDD NO. S05-0302-017

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&A Engineering and Science

In 1994, Ecology and Environment, Inc. (E&E), contractor to U.S. EPA, conducted a site assessment at the site. In 1995, the IEPA completed a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Expanded Site Inspection (ESI) covering the area of the site. Results of these investigations showed the presence of elevated concentrations of VOCs, semivolatile organic compounds (SVOCs), PCBs, and metals (CEI 2001).

In 1997, the U.S. EPA contractor E&E, performed an Engineering Evaluation/Cost Analysis (EE/CA) for the Vacant Lot. The EE/CA, included collection of soil, groundwater, surface water, and sediment samples from the site. Analytical results indicated elevated concentrations of PCBs, pesticides, and metals in soil. Lead contamination was prevalent throughout the site and was encountered at one to two feet below ground surface (bgs) in soils and from one to four feet bgs in the sediments of Pettibone Creek. Elevated PCB concentrations were detected in the southern two thirds of the site. The results of the groundwater sampling events conducted at the site indicated trichloroethene (TCE) and tetrachloroethene contamination. The EE/CA report concluded that a site-wide soil and sediment removal action should be conducted at the site (E&E 1997).

From September 15, 1998, through January 8, 1999, OHM Remediation Services Corp. (OHM) was contracted by the United States Army Corps of Engineers (USACE), to conduct a soil and sediment removal at the site. The purpose of this removal action was to excavate soil and sediment from the site, including the creek, that exceeded the clean-up criteria of 1,400-parts per million (ppm) total lead, 1-ppm total beryllium, and 25-ppm PCBs. The site-specific clean-up criterion was developed from a streamlined risk evaluation and from a site-specific determination of lead clean-up goal performed by the U.S. EPA (U.S. EPA 1997). The excavation at the site ranged from two to five feet bgs. The Creek sediments were excavated to a minimum depth of two feet bgs. Approximately 4,600 tons of lead contaminated sediments were excavated from the Creek. A source area in the northern part of the site, as identified in the EE/CA report and measuring an approximate area of 30-feet by 30-feet by 2.5-feet, was excavated due to elevated levels of tertachloroethene. A total of 44,836 tons of contaminated soils were excavated, stabilized, and transported to BFI Landfill in Zion, IL, and Kestrel Hawk Park Landfill in Racine, WI, for disposal (OHM 1999). After the conclusion of the removal action, the U.S. EPA entered into a Prospective Purchase Agreement with EMCO Chemical Distributors, Inc. (EMCO), a facility located to the west of Commonwealth Ave. Under this agreement, EMCO would re-develop the site for industrial use.

Beginning in April 2000, Fansteel, Inc. (Fansteel), a facility located to the east of Vacant Lot, began performing an EE/CA on Fansteel site as part of U.S. EPA Administrative Order on Consent (AOC) requirements. As part of these investigations, Fansteel's consultant, Carlson Environmental, Inc. (CEI), installed test borings on the Vacant Lot site to delineate TCE groundwater plume boundaries of Fansteel site. Analytical results from this sampling event showed the presence of elevated concentrations of TCE in groundwater samples collected at the Vacant Lot site. TCE at 96.2 milligrams/liter (mg/L) was detected in the groundwater sample of test boring TB-24. TB-24 was located to the east of Pettibone Creek in the northern part of Vacant Lot site and groundwater was encountered at a depth of five feet bgs. This contamination was outside Fansteel's identified TCE plume and indicated an underlying source on Vacant Lot.

3.0 REMOVAL ASSESSMENT ACTIVITIES

Removal assessment activities at the site included site reconnaissance and sampling activities. Each activity is discussed below.

3.1 SITE RECONNAISSANCE

On August 21, 2003, U.S. EPA's Field Support Section (FSS) members S. Ostrodka and S. Peterson and START members R. Nagam and S. Splittergerber conducted site reconnaissance and assessment activities. START members met with Mr. Ron Kaplan of EMCO, and discussed potential site activities. Prior to site mobilization, U.S. EPA Remedial Project Manager (RPM), Mr. John O'Grady, corresponded with EMCO and was granted site access to conduct this removal assessment. START calibrated the total vapor analyzer (TVA-1000) instrument and conducted reconnaissance activities. Historical sample location TB-24 was identified using landmarks and measuring tape.

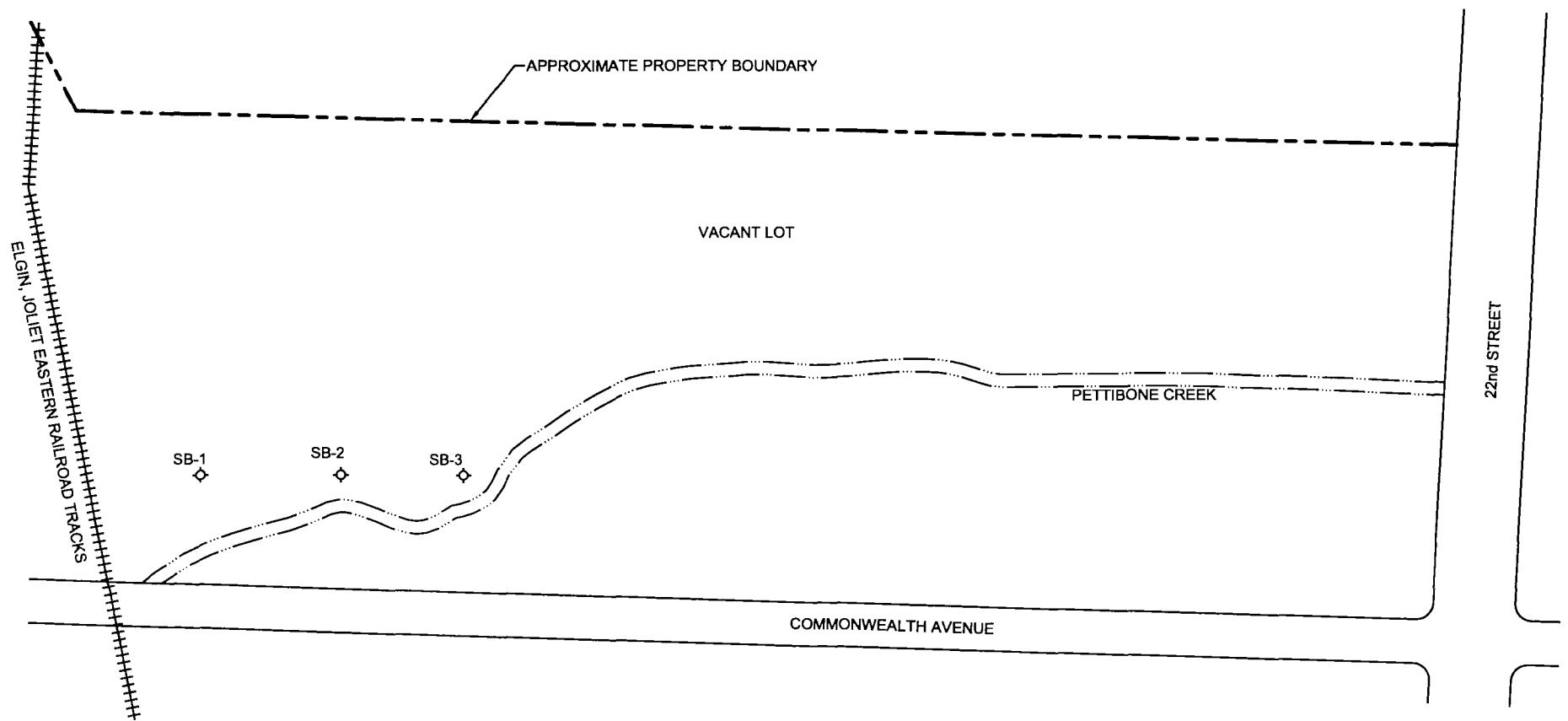
3.2 SAMPLING ACTIVITIES

START prepared a site Sampling and Analysis Plan (SAP) and implemented it during this assessment. The SAP required collection of soil and groundwater samples from on-site locations and analysis for inorganic and organic compounds.

U.S. EPA and START identified three soil boring locations, SB-1 through SB-3, in the northwest part of the site adjacent to Pettibone Creek (see Figure 3). Soil boring SB-2 was located adjacent to CEI's investigation test boring TB-24. Soil boring SB-2 was located by measuring 71-feet north of MW-6, located on the Fansteel site at the eastern property boundary of the Vacant Lot site, and then measuring 280-feet west to the boring location. Soil borings SB-1 and SB-3 were located 95-feet north and south, respectively, of soil boring SB-2.

U.S. EPA's FSS members operated a Bobcat® mounted Geoprobe® to install the three soil borings. Each soil boring was advanced to a depth of approximately 8-feet bgs. START chose the sampling depth of 0- to 8-feet bgs because previous investigations conducted by CEI indicated groundwater contamination at five feet bgs. Soil samples were collected from each soil boring using a 48-inch stainless steel macrocore (MC) sampling tube lined with cellulose acetate butyrate (CAB) sampling sleeve. Two soil samples from each soil boring were collected from depths of 0 to 4 and 4 to 8 feet bgs. Each 4-foot interval sample was

divided into 2-foot sections and screened for VOCs using TVA-1000 instrument. The section with the highest VOC reading was sampled for VOC analysis.



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&A Engineering and Science

LEGEND
 SB-1 ◊ SOIL BORING LOCATION
 - - - APPROXIMATE PROPERTY BOUNDARY LOCATION

REFERENCE:
 DRAWING PREPARED FROM DRAWING PROVIDED BY
 EARTH SCIENCES CONSULTANTS, INC.
 FEBRUARY 2003

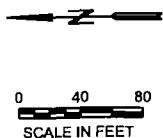


FIGURE 3
 SAMPLE LOCATION MAP

VACANT LOT SITE
 NORTH CHICAGO, ILLINOIS
 TDD NO. S05-0302-017

Soil borings indicate that the site generally consists of 0 to 3 feet of light brown silty-clay fill material at the top. Brown mottled gray clayey-silt moist deposit is located beneath this fill material to a depth of approximately 7-feet bgs. Grayish clayey-silt with trace sand and moist conditions is located from 7 to 8-feet bgs. The soils encountered by START during this investigation were similar to those encountered during historical investigations conducted at the site.

Soil sample SB-1-1 was collected from the 0 to 4 feet bgs boring interval. Air monitoring of the sample using TVA-1000 instrument indicated 0 ppm organic vapors above the background level. A VOC sample was collected from the 2 to 3 feet bgs section, while the metals sample was collected by compositing the remainder of the 0 to 4 feet boring interval. Soil sample SB-1-2 was collected from the 4 to 8 feet bgs boring interval. Air monitoring of the sample indicated over 12 ppm organic vapors. A VOC sample was collected from the 6 to 7 feet bgs section, while the metals sample was collected by compositing the remainder of the 4 to 8 feet bgs boring interval.

Soil sample SB-2-1 was collected from the 0 to 4 feet boring interval. Air monitoring of the sample indicated over 79 ppm organic vapors in the 2 to 3 feet bgs section of the boring interval. The VOC sample was collected from the 2 to 3 feet bgs section, while the metals sample was collected by compositing the remainder of the 0 to 4 feet bgs boring interval. Soil sample SB-2-2 was collected from the 4 to 8 feet boring interval. Air monitoring of the sample indicated over 150 ppm organic vapors in the 5 to 6 feet bgs section of the boring interval. A VOC sample was collected from the 5 to 6 feet bgs section, while the metals sample was collected by compositing the remainder of the 4 to 8 feet bgs boring interval.

Soil sample SB-3-1 was collected from the 0 to 4 feet boring interval. Air monitoring of the sample indicated over 9 ppm organic vapors in the 2 to 3 feet bgs section of the boring interval. A VOC sample was collected from the 2 to 3 feet bgs section, while the metals sample was collected by compositing the remainder of the 0 to 4 feet bgs boring interval. Soil sample SB-3-2 was collected from the 4 to 8 feet bgs boring interval. Air monitoring of the sample indicated over 50 ppm organic vapors in the 5 to 6 feet bgs section of the boring interval. A VOC sample was collected from the 5 to 6 feet bgs section while the metals sample was collected by compositing the remainder of the 4 to 8 feet bgs boring interval.

Following the advancement of each soil boring to 8-feet bgs, START attempted to collect a groundwater sample utilizing a peristaltic pump and dedicated polyethylene tubing. Although moisture was

encountered during soil sampling activities, the rate of groundwater recharge was not sufficient to collect an adequate groundwater sample volume from any of the three soil borings.

As part of the quality assurance/quality control (QA/QC) program, one duplicate sample and one matrix spike/matrix spike duplicate (MS/MSD) sample was also collected. Sample SB-2-1D was the duplicate sample of SB-2-1. At each soil boring location, dedicated stainless steel MC tubes lined with CAB sampling sleeves were used to collect soil samples and the sampler donned new Nitrile gloves for the collection of each sample. At the conclusion of sampling activities, personal protective equipment (PPE) was double bagged and given to Mr. Kaplan from EMCO for disposal. The soil samples were preserved with ice, packaged and shipped under chain-of-custody documentation via FedEx to U.S. EPA Contract Laboratories Program (CLP) for VOCs and total metal analysis, and to a commercial laboratory for total tantalum analysis. Site features and sampling locations were photographed (see Appendix A) during this removal assessment activities.

4.0 SAMPLE ANALYTICAL RESULTS

The seven soil samples were analyzed under the U.S. EPA CLP contract by CEMIC laboratories located in Narragansett, Rhode Island, for VOCs and by Bonner laboratories located in Hattiesburg, Mississippi, for total metals. Analysis for total tantalum was performed by Great Lakes Analytical (GLA) in Buffalo Grove, Illinois, under analytical TDD No. S05-0308-005. Analytical parameters were chosen based on historical analytical data of the site. All soil samples collected at the site were analyzed for the following parameters using the U.S. EPA SW-846 Methods: total VOCs using methods 5030B and 8260B, total metals using methods 6010B, 7470A, and 7471A, and total tantalum using method 6010B. START reviewed analytical data and supporting QA/QC data provided by U.S. EPA CLP and GLA laboratories. The validated data package is included in Appendix B. Based on START QA/QC data validation, the data are acceptable for use as qualified. The analytical results of duplicate soil sample SB-2-1-D was comparable to results of the original soil sample SB-2-1. Tables 1 and 2 lists detected analytes and their concentrations for VOC and total metal results, respectively. Significant analytical results are discussed below.

TCE and tetrachloroethene were the most prevalent contaminants detected in site soil samples. Analytical results of soil samples indicated concentrations of TCE ranging from 7.1 to 1,100 mg/kg and tetrachloroethene ranging from 0.38 to 150 mg/kg. The highest TCE concentration was detected in a soil sample at a depth of 4-8 feet bgs. Analytical result for soil sample SB-1-1 indicated total lead of 861 mg/kg.

TABLE 1
VACANT LOT SITE
SOIL ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
NORTH CHICAGO, LAKE COUNTY, ILLINOIS

Sampling ID :	SB1-1	SB1-2	SB1-2-DL	SB2-1	SB2-1-DL	SB2-2	SB2-2-DL	SB3-1	SB3-1-DL	SB3-2	SB3-2-DL	SB2-1-D	SB2-1-D-DL	TACO SRO - Ingestion*	TACO SRO - Inhalation*
Date Sampled :	08/21	08/21	08/21	08/21	08/21	08/21	08/21	08/21	08/21	08/21	08/21	08/21	08/21		
Depth Sampled (feet) :	0-4	4-8	4-8	0-4	0-4	4-8	4-8	0-4	0-4	4-8	4-8	0-4	0-4		
TRANS-1,2-DICHLOROETHENE	1400 U	1400 U	2700 U	2900 U	29000 U	300 J	150000 UJ	1500 U	2900 U	1400 U	14000 U	1400 U	14000 U	NL	NL
CIS-1,2-DICHLOROETHENE	730 J	7400	7800	2300 J	29000 U	35000	27000 J	1900	2900 U	8700	14000 U	770 J	14000 U	NL	NL
1,1,1-TRICHLOROETHANE	1400 U	1400 U	2700 U	350 J	29000 U	2900 U	150000 UJ	1500 U	2900 U	1400 U	14000 U	1400 U	14000 U	NL	1.2 E+6
BENZENE	270 J	210 J	2700 U	2900 U	29000 U	2900 U	150000 UJ	1500 U	2900 U	1400 U	14000 U	1400 U	14000 U	1.0E+5	1600
TRICHLOROETHENE	7100 J	41000 J	48000 J	270000 J	390000 J	450000 J	1100000 J	36000 J	34000 J	140000 J	230000 J	120000 J	150000 J	5.2E+5	8,900
TOLUENE	390 J	230 J	2700 U	2900 U	29000 U	390 J	150000 UJ	1500 U	2900 U	180 J	14000 U	1400 U	14000 U	4.1E+8	6.5E+5
TETRACHLOROETHENE	1400 U	380 J	2700 U	3700	29000 U	3200	150000 UJ	18000	18000	27,000	26,000	2200	14000 U	1.1E+5	2.0E+4
CHLOROBENZENE	560 J	310 J	2700 U	2900 U	29000 U	2900 U	150000 UJ	1500 U	2900 U	1400 U	14000 U	1400 U	14000 U	4.1E+7	2.1E+5
ETHYLBENZENE	1400 U	1400 U	2700 U	2900 U	29000 U	320 J	150000 UJ	1500 U	2900 U	1400 U	14000 U	1400 U	14000 U	2.0E+8	4.0E+5
1,2-DICHLOROBENZENE	1400 U	1400 U	2700 U	1500 J	29000 U	3700	150000 UJ	1500 U	2900 U	1400 U	14000 U	700 J	14000 U	1.8E+8	5.6E+5

Notes: **Bolded** results exceed the regulatory limits discussed in Section 5.0

J = The analyte was detected. The reported numerical values is considered estimated for quality control reasons

U = Not detected at or above the reporting limit.

UJ = Not detected at or above the reporting limit. The reported quantitation limit is approximate and may or may not represent the action limit.

NL = Not listed

* = Title 35 of the Illinois Administrative Code (IAC) Section 742, Tiered Approach to Corrective Action Objectives (TACO), Table B: Tier 1 Soil Remediation Objective (SRO) for Industrial/Commercial Properties.

DL = Dilution factor

Results in micrograms per kilogram

TABLE 2
SOIL ANALYTICAL RESULTS - METALS
NORTH CHICAGO, LAKE COUNTY, ILLINOIS

Sampling ID:	SB1-1	SB1-2	SB2-1	SB2-2	SB3-1	SB3-2	SB2-1-D	TACO Remediation Objective - Ingestion*	TACO Remediation Objective - Inhalation*
Date Sampled:	08/21/03	08/21/03	08/21/03	08/21/03	08/21/03	08/21/03	08/21/03		
Depth Sampled (feet):	0-4	4-8	0-4	4-8	0-4	4-8	0-4		
ALUMINUM	11000 J	7760 J	9070 J	5690 J	10800 J	7110 J	4670 J	NL	NL
ARSENIC	5.3 J	5.9 J	7.9 J	6.8 J	7.6 J	5.8 J	3.5 J	NL	1,200
BARIUM	84.7	29.4	40.1	21.8 U	40.6	29.0	21.7 U	140,000	910,000
BERYLLIUM	0.56 U	0.59 U	0.54 U	0.54 U	0.61	0.56 U	0.54 U	4,100	2,100
CADMIUM	1.7 J+	0.76 J+	0.83 J+	0.54 UJ	1.4 J+	0.64 J+	0.54 UJ	2,000	2,800
CALCIUM	66000 J	82800 J	28400 J	55400 J	19400 J	79300 J	51500 J	NL	NL
CHROMIUM	20.0 J	13.3 J	16.4 J	12.7 J	19.8 J	12.6 J	9.0 J	6,100	420
COBALT	10.3	8.5	8.6	7.3	12.5	7.5	5.4 U	120,000	NL
COPPER	736 J	18.2 J+	25.5 J	17.7 J+	29.5 J	18.1 J+	20.9 J	82,000	NL
IRON	24700 J	14800 J	19500 J	12600 J	29000 J	14400 J	10700 J	NL	NL
LEAD	861 J-	7.9 J-	11.4 J-	6.9 J-	18.2 J-	7.7 J-	10.1 J-	400	NL
MAGNESIUM	33700 J	44800 J	18600 J	30700 J	14100 J	41900 J	27900 J	NL	NL
MANGANESE	594	582	320	468	436	525	422	96,000	91,000
NICKEL	27.7 J	19.4 J	18.2 J	16.9 J	29.4 J	17.5 J	10.8 J+	41,000	21,000
POTASSIUM	2950	2790	2020	2190	2520	2680	1660	NL	NL
SODIUM	2390 J	243 J	427 J	178 J	111 J	220 J	196 J	NL	NL
VANADIUM	22.2	17.9	20.8	14.9	32.7	16.2	14.1	14,000	NL
ZINC	3660 J	163 J	46.2 J	36.2 J	74.6 J	35.6 J	48.2 J	610,000	NL

Notes: **Bolded** results exceed the regulatory limits discussed in Section 5.0

J = The analyte was detected. The reported numerical values is considered estimated for quality control reasons

J+ = The analyte was detected. The result is an estimated quantity, but result may be biased high.

J- = The analyte was detected. The result is an estimated quantity, but the result may be biased low.

U = Not detected at or above the reporting limit.

UJ = Not detected at or above the reporting limit. The reported quantitation limit is approximate and may or may not represent the action limit.

NL = Not listed

* = Title 35 of the Illinois Administrative Code (IAC) Section 742, Tiered Approach to Corrective Action Objectives (TACO), Table B: Tier 1 Soil Remediation Objectives for Industrial/Commercial Properties.

Results in milligrams per kilogram

5.0 POTENTIAL SITE-RELATED THREATS

Potential site-related threats were evaluated in relation to contaminants' human exposure route-specific values. Specifically, the soil concentrations were evaluated against the ingestion and inhalation remediation objectives (RO) listed in Title 35 of the Illinois Administrative Code (IAC) Section 742, Tiered Approach to Corrective Action Objectives (TACO), Table B: Tier 1 Soil Remediation Objectives for Industrial/Commercial Properties.

TCE concentration exceed the industrial-commercial worker soil RO for inhalation in five out of six samples (all samples except SB1-1) and for ingestion in one out of six samples (SB2-2).

Tetrachloroethylene concentration exceeded the industrial-commercial worker soil ingestion RO in one sample (SB3-2). Lead concentration exceed the industrial-commercial and construction worker ingestion and inhalation RO in one sample (SB1-1).

Based on NCP Section 300.415, U.S. EPA may take removal action to abate, prevent, minimize, stabilize, mitigate, or eliminate a release or potential release that poses a threat to the public health or welfare of the United States or the environment. Section 300.415(b)(2) of the NCP lists factors to be considered when determining appropriateness of a removal action. Based on comparison to TACO Tier 1 soil ROs, TCE and tetrachloroethylene in site soils at the site poses a potential threat to industrial-commercial and construction workers through the ingestion and inhalation exposure routes. Factors to be considered for determining appropriateness of a removal action at Vacant Lot site are discussed below.

Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants. START sampling results indicate TCE and tetrachloroethylene contaminants above TACO Tier 1 ROs as discussed above. TCE and tetrachloroethene contaminants were prevalent to a depth of 8 feet bgs.

Drinking or breathing high levels of TCE, which was detected on site, may cause nervous system effects, liver and lung damage, abnormal heartbeat, coma, and possibly death. Breathing small amounts may cause headaches, lung irritation, dizziness, poor coordination, and difficulty concentrating. Dermal contact with trichloroethylene for short periods may cause skin rashes, headaches, lung irritation, dizziness, poor coordination, and difficulty concentrating.

Exposure to very high concentrations of tetrachloroethylene can cause dizziness, headaches, sleepiness, confusion, nausea, difficulty in speaking and walking, unconsciousness, and death. The U.S. Department of Health and Human Services (DHHS) has determined that tetrachloroethylene may reasonably be anticipated to be a carcinogen. Tetrachloroethylene has been shown to cause liver tumors in mice and kidney tumors in male rats.

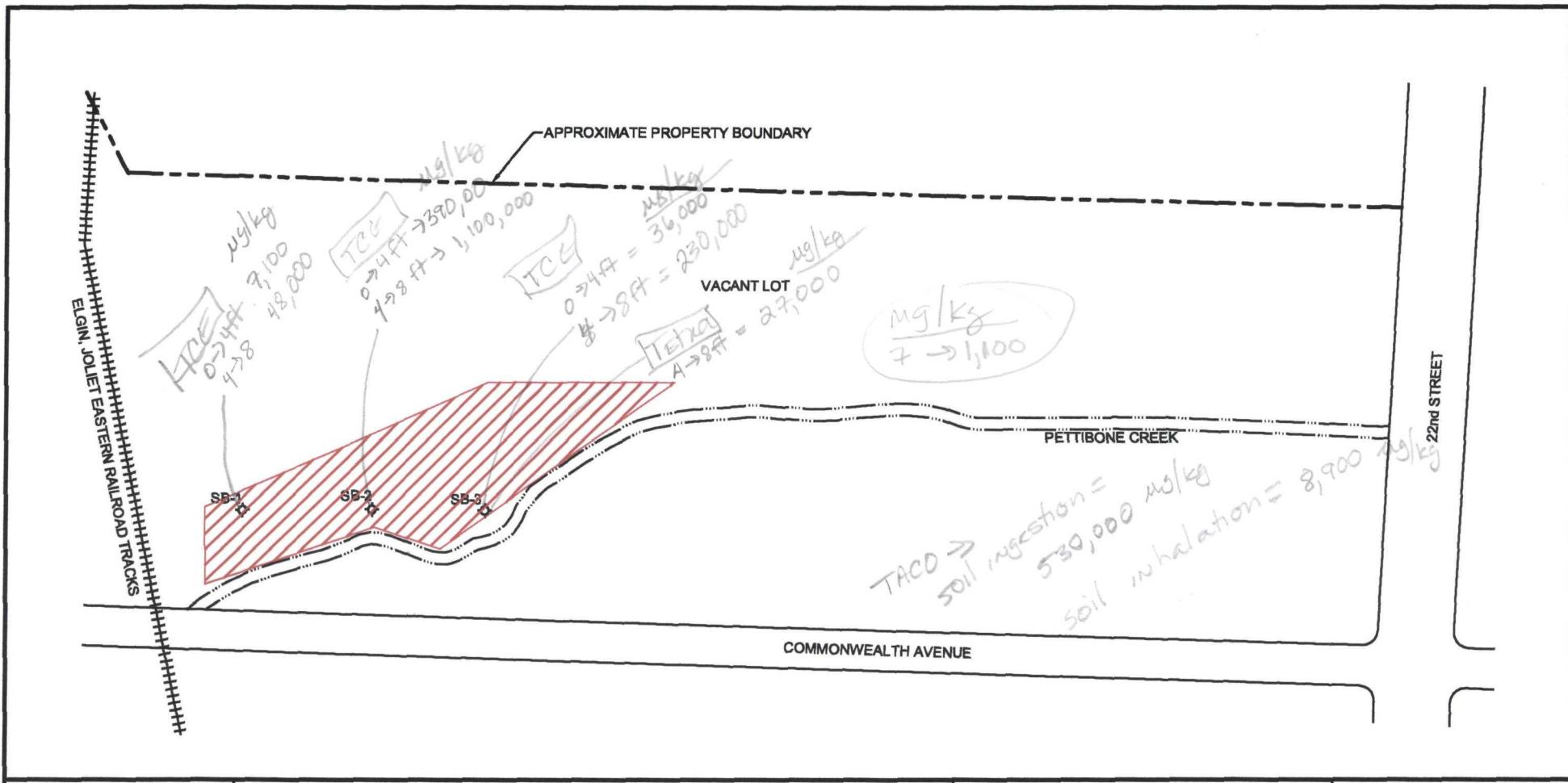
Actual or potential contamination of drinking water supplies or sensitive ecosystems. Groundwater analytical results of CEI's test boring (TB-24) show the presence of elevated concentrations of TCE (96.2 mg/L). Groundwater at the site may cause actual or potential contamination via off-site migration from flowing directly into Pettibone Creek and ultimately into Lake Michigan.

High levels of hazardous substances or pollutants or contaminants in soils largely at near the surface, that may migrate; Soil analytical results from 0 to 4-feet bgs collected during this investigation showed the presence of elevated concentrations of TCE and tetrachloroethene. These surface soils pose a migration threat due to surface soil runoff into Pettibone Creek.

6.0 PROPOSED ACTIONS AND ESTIMATED COSTS

Based on Section 5.0, U.S. EPA could undertake a removal action to abate potential site-related threats from the presence of hazardous substances, pollutants, or contaminants present at the site. Based on TACO RO exceedances, the depth of soil contamination extends up to 8 feet bgs and covers an area of 18,538 square feet (ft^2) (see Figure 4). The estimated volume of contaminated soil is 6,900 cubic yards (yd^3). The recommended removal action would involve removing all hazardous soils and transporting them to a licensed disposal facility for treatment and disposal.

Transportation and disposal costs for the recommended removal action was quoted by Envirite of Illinois, Inc., located in Harvey, Illinois (see Appendix C). The time frame for the completion of the removal action is projected at 10-hour work days for a duration of 30 days. The total cleanup contractor cost for the removal action, including contingency and indirect costs is \$1,097,304.34.



TN & Associates, Inc. <small>Engineering and Science</small>	LEGEND SB-1 ◊ SOIL BORING LOCATION - - - APPROXIMATE PROPERTY BOUNDARY LOCATION ■■■ ESTIMATED AREA OF SOIL CONTAMINATION (NOT TO SCALE)	FIGURE 4 EXTENT OF CONTAMINATION MAP	VACANT LOT SITE NORTH CHICAGO, ILLINOIS TDD NO. S05-0302-017
REFERENCE: DRAWING PREPARED FROM DRAWING PROVIDED BY EARTH SCIENCES CONSULTANTS, INC. FEBRUARY 2003			

7.0 SUMMARY

On August 21, 2003, U.S. EPA's FSS members Mr. S. Ostrodka and S. Peterson and START members R. Nagam and S. Splitterber conducted removal assessment activities at the Vacant Lot site in North Chicago, Illinois. Removal assessment activities included a site reconnaissance and collection of six soil samples and one duplicate sample. Samples were analyzed for VOCs, total metals, and total tantalum. Contaminant concentrations were evaluated against ROs listed in Title 35 of the IAC Section 742, TACO, Table B: Tier 1 Soil Remediation Objectives for Industrial/Commercial Properties. Analytical results of five samples and one duplicate sample exceeded the RO for TCE and one sample result exceeded the RO for tetrachloroethylene. Lead concentration exceed the industrial-commercial and construction worker ingestion and inhalation ROs in one sample. Based on START removal assessment analytical results and CEI's groundwater result, the site meets the requirements for a potential removal action to abate, prevent, minimize, stabilize, mitigate, or eliminate the release or threat of release.

8.0 REFERENCES

Carlson Environmental, Inc. (CEI). 2001. "Site Investigation Report." Prepared for Fansteel, Inc. January 26.

Earth Sciences Consultants, Inc. (Earth Sciences). 2003. "Engineering Evaluation/Cost Analysis Fansteel, Inc. North Chicago, Illinois Facility." Prepared for Fansteel, Inc. February.

Ecology & Environment, Inc. (E&E). 1997. "Engineering Evaluation/Cost Analysis for the Vacant Lot Site North Chicago, Illinois." Prepared for the U.S. Environmental Protection Agency. September 5.

U.S. Environmental Protection Agency (U.S. EPA). 1997. Memorandum from Lara Pullen, Ph. D., Human Risk Assessor, Water Division, to John O' Grady, Project Manager, Superfund. Subject - Vacant Lot Site: Determination of a Clean-Up Goal for Lead. April 10.

OHM Remedial Services Corp. (OHM). 1999. "Final Report Removal of Lead and PCB Contaminated Soil at the Vacant Lot Site North Chicago, Illinois Contract No. DACW45-94-D-0005 Delivery Order No. 55." Prepared for the U.S. Environmental Protection Agency. October 25.

APPENDIX A
PHOTOGRAPHIC LOG

(2 Pages)



Photograph No.: 1
TDD Number: S05-0302-017
Photographer: Scott Splittergerber, START
Location: North Chicago, Lake County, Illinois
Subject: Soil boring location SB-1

Orientation: North
Date: Thursday, August 21, 2003
Site Name: Vacant Lot Site



Photograph No.: 2
TDD Number: S05-0302-017
Photographer: Scott Splittergerber, START
Location: North Chicago, Lake County, Illinois
Subject: Soil boring location SB-2

Orientation: Northwest
Date: Thursday, August 21, 2003
Site Name: Vacant Lot Site



Photograph No.: 3
TDD Number: S05-0302-017
Photographer: Scott Splittgerber, START
Location: North Chicago, Lake County, Illinois
Subject: Soil boring location SB-3

Orientation: Northwest
Date: Thursday, August 21, 2003
Site Name: Vacant Lot Site

APPENDIX B
VALIDATED ANALYTICAL DATA PACKAGE
(145 Sheets)

24
SEP 23 2003
END

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: _____

SUBJECT: Review of Data
Received for Review on 9/5/03

FROM: Stephen L. Ostrodka, Chief (SRT-4J)
Superfund Field Services Section

TO: Data User: Tetra Tech

We have reviewed the data for the following case:

SITE NAME: Fansteel Vulcan Materials (IL)

CASE NUMBER: 32024 SDG NUMBER: E2DN0

Number and Type of Samples: 7 (Soil)

Sample Numbers: E2DN0-6

Laboratory: CEIMIC Hrs. for Review: _____

Following are our findings:

CC: Cecilia Moore
Region 5 TPO
Mail Code: SMF-4J

Case Number : 32024
Site Name: Fansteel Vulcan Materials (IL)

SDG Number: E2DN0
Laboratory: CEIMIC

Below is a summary of the out-of-control audits and the possible effects on the data for this case:

Seven (7) soil samples, numbered E2DN0 through E2DN6, were collected on August 21, 2003. The lab received the samples on August 22, 2003 in good condition. All samples were analyzed for the full list of volatile organic analytes. All were analyzed according to CLP SOW OLM04.3.

Samples E2DN2 and E2DN6 are field duplicates.

Reviewed By: T. Sedlacek ESAT
Date: September 24, 2003

Case Number : 32024
Site Name: Fansteel Vulcan Materials (IL)

SDG Number: E2DN0
Laboratory: CEIMIC

1. HOLDING TIME

The following preserved volatile soil sample is outside primary holding time criteria. Results are biased low. Hits are qualified "J" and non-detects are qualified "UJ" unless otherwise qualified for another problem.

E2DN3DL

2. GC/MS TUNING AND GC INSTRUMENT PERFORMANCE

No defects found.

3. CALIBRATION

The following volatile samples are associated with a continuing calibration whose corresponding initial calibration has percent relative standard deviation (%RSD) outside primary criteria. Hits are qualified "J" and non-detects are flagged "UJ".

Methylene Chloride

E2DN0, E2DN0MS, E2DN0MSD, E2DN1, E2DN1DL, E2DN2, E2DN2DL, E2DN3,
E2DN3DL, E2DN4, E2DN4DL, E2DN5, E2DN5DL, E2DN6, E2DN6DL, VBLKPH,
VBLKPN, VBLKPO, VBLKPP, VHBLK01

The following volatile samples are associated with a continuing calibration percent difference (%D) outside primary criteria. Hits are qualified "J" and non-detects are qualified "UJ".

Dichlorodifluoromethane, Carbon Disulfide

E2DN1DL, E2DN2DL, E2DN3DL, E2DN4DL, E2DN5DL, E2DN6DL, VBLKPN,
VBLKPO, VBLKPP, VHBLK01

Chloromethane, Chloroethane, 1,1-Dichloroethene

E2DN3DL, VBLKPO, VBLKPP, VHBLK01

Bromomethane, Acetone

E2DN1DL, E2DN2DL, E2DN4DL, E2DN5DL, E2DN6DL, VBLKPN

Reviewed By: T. Sedlacek ESAT
Date: September 24, 2003

Case Number : 32024
Site Name: Fansteel Vulcan Materials (IL)

SDG Number: E2DN0
Laboratory: CEIMIC

Methylene Chloride
E2DN0, E2DN0MS, E2DN0MSD, E2DN1, E2DN1DL, E2DN2, E2DN2DL, E2DN3,
E2DN3DL, E2DN4, E2DN4DL, E2DN5, E2DN5DL, E2DN6, E2DN6DL, VBLKPH,
VBLKPN, VBLKPO, VBLKPP, VHBLK01

The following volatile samples are associated with a continuing calibration relative response factor (RRF5) outside primary criteria. Hits are flagged "J" and non-detects are qualified "R".

1,2-Dibromo-3-chloropropane
E2DN1DL, E2DN2DL, E2DN3DL, E2DN4DL, E2DN5DL, E2DN6DL, VBLKPN,
VBLKPO, VBLKPP, VHBLK01

4. BLANKS

The following volatile samples have analyte concentrations reported below the CRQL and less than or equal to five times (5X) the associated method blank concentration. Reported sample concentrations have been elevated to the CRQL. Hits are qualified "U" and non-detects are not flagged.

Cis-1,2-Dichloroethene
E2DN4DL, E2DN5DL

Tetrachloroethene
E2DN1DL, E2DN2DL, E2DN6DL

Styrene
E2DN1, E2DN2, E2DN3, E2DN5

The following volatile samples have analyte concentrations reported above the CRQL and less than or equal to ten times (10X) the associated method blank concentration. Hits are qualified "U" or "UJ" and non-detects are not flagged.

Methylene Chloride
E2DN2DL, VHBLK01

The following volatile samples have analyte concentrations reported below the CRQL and less than or equal to ten times (10X) the associated method blank concentration. Reported sample

Reviewed By: T. Sedlacek ESAT
Date: September 24, 2003

Case Number : 32024

Site Name: Fansteel Vulcan Materials (IL)

SDG Number: E2DN0

Laboratory: CEIMIC

concentrations have been elevated to the CRQL. Hits are qualified "U" or "UJ" and non-detects are not flagged.

Acetone

E2DN0, E2DN1, E2DN1DL, E2DN2, E2DN2DL, E2DN3DL, E2DN4, E2DN4DL,
E2DN5, E2DN5DL, E2DN6

Methylene Chloride

E2DN0, E2DN0MS, E2DN0MSD, E2DN1, E2DN1DL, E2DN2, E2DN3, E2DN3DL,
E2DN4, E2DN4DL, E2DN5, E2DN5DL, E2DN6, E2DN6DL

The following volatile samples are associated with a contaminated storage blank. Hits are qualified "J" and non-detects are not flagged.

Trichloroethene

E2DN0, E2DN0MS, E2DN0MSD, E2DN1, E2DN1DL, E2DN2, E2DN2DL, E2DN3,
E2DN3DL, E2DN4, E2DN4DL, E2DN5, E2DN5DL, E2DN6, E2DN6DL

5. SYSTEM MONITORING COMPOUND AND SURROGATE RECOVERY

The following volatile samples have system monitoring compound recoveries above the upper limit of the criteria window. Hits are qualified "J" and non-detects are not flagged.

E2DN0MSD

6. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

The relative percent difference (RPD) between the following volatile matrix spike and matrix spike duplicate recoveries is outside criteria. In the unspiked E2DN0, hits are flagged "J" and non-detects are flagged "UJ".

E2DN0MS, E2DN0MSD

Trichloroethene

The following volatile matrix spike/matrix spike duplicate samples have percent recovery outside criteria. In the unspiked E2DN0, hits are flagged "J" and non-detects are flagged "UJ".

Reviewed By: T. Sedlacek ESAT
Date: September 24, 2003

Case Number : 32024
 Site Name: Fansteel Vulcan Materials (IL)

SDG Number: E2DN0
 Laboratory: CEIMIC

E2DN0MS
 Trichloroethene

7. FIELD BLANK AND FIELD DUPLICATE

These was no a field blank submitted with this SDG. Sample E2DN2 is a field duplicate of Sample E2DN6. Results are not qualified based upon the results of the field blank or field duplicates.

	E2DN2	E2DN2DL	E2DN6	E2DN6DL
cis-1,2-Dichloroethene	2300 J		770 J	
1,1,1-Trichloroethane	350 J			
Trichloroethene	270000	390000	120000	150000
Tetrachloroethene	3700		2200	
1,2-Dichlorobenzene	1500 J		700 J	
# of TICs	1		2	

8. INTERNAL STANDARDS

No defects found.

9. COMPOUND IDENTIFICATION

After reviewing the mass spectra and chromatograms it appears that all VOA compounds were properly identified.

10. COMPOUND QUANTITATION AND REPORTED DETECTION LIMITS

The following volatile samples have analyte concentrations below the quantitation limit (CRQL). All results below the CRQL are qualified "J".

E2DN0
 cis-1,2-Dichloroethene, Benzene, Toluene, Chlorobenzene

Reviewed By: T. Sedlacek ESAT
 Date: September 24, 2003

Case Number : 32024
Site Name: Fansteel Vulcan Materials (IL)

SDG Number: E2DN0
Laboratory: CEIMIC

E2DN0MS, E2DN0MSD, E2DN3DL
cis-1,2-Dichloroethene

E2DN1
Benzene, Toluene, Tetrachloroethene, Chlorobenzene

E2DN2
cis-1,2-Dichloroethene, 1,1,1-Trichloroethane, 1,2-Dichlorobenzene

E2DN3
trans-1,2-Dichloroethane, Toluene, Ethylbenzene

E2DN4
Methylcyclohexane

E2DN5
Toluene

E2DN6
cis-1,2-Dichloroethene, 1,2-Dichlorobenzene

VBLKPH
Chloromethane, Acetone, Methylene Chloride, Xylenes (total), Styrene, 1,2,4-Trichlorobenzene

VBLKPN
Dichlorodifluoromethane, Chloromethane, Vinyl Chloride, 1,1-Dichloroethene, Acetone, Carbon Disulfide, Methylene Chloride, trans-1,2-Dichloroethene, 1,1-Dichloroethane, cis-1,2-Dichloroethene, Chloroform, 1,1,1-Trichloroethane, Cyclohexane, Carbon Tetrachloride, Benzene, Trichloroethene, Methylcyclohexane, Toluene, Tetrachloroethene, Chlorobenzene, Ethylbenzene, Xylenes (total), Isopropylbenzene

VBLKPO
Methylene Chloride

VBLKPP
Acetone, Methylene Chloride

Reviewed By: T. Sedlacek ESAT
Date: September 24, 2003

Case Number : 32024

Site Name: Fansteel Vulcan Materials (IL)

SDG Number: E2DN0

Laboratory: CEIMIC

VHBLK01

Acetone, Trichloroethene

The detection limits and dilution factors for the following samples were incorrectly reported.

Sample	Reported CRQL	Reported df	Calculated CRQL	Simulated df
E2DN0	1500	1.0	1400	1.0
E2DN1DL	2900	1.0	2700	2.0
E2DN2	3100	1.0	2900	2.0
E2DN2DL	31000	1.0	29000	20.0
E2DN3	3000	1.0	2900	2.0
E2DN3DL	150000	1.0	150000	100.0
E2DN4DL	3000	1.0	2900	2.0
E2DN5	1500	1.0	1400	1.0
E2DN5DL	15000	1.0	14000	10.0
E2DN6DL	14000	1.0	14000	10.0

11. SYSTEM PERFORMANCE

GC/MS baseline indicated acceptable performance.

12. ADDITIONAL INFORMATION

Verification of non-detected results and assignment of "U" qualifier when the reported value is less than CRQL.

E2DN0, E2DN0MS, E2DN0MSD, E2DN1, E2DN1DL, E2DN2, E2DN2DL, E2DN3, E2DN3DL, E2DN4, E2DN4DL, E2DN5, E2DN5DL, E2DN6, E2DN6DL, VBLKPH, VBLKPN, VBLKPO, VBLKPP, VHBLK01

Reviewed By: T. Sedlacek ESAT
 Date: September 24, 2003

Case Number : 32024

Site Name: Fansteel Vulcan Materials (IL)

SDG Number: E2DN0

Laboratory: CEIMIC

The following volatile samples have analyte concentrations which exceeded the calibration range.
The concentration for these analytes from the diluted sample should be used.

Trichloroethene

E2DN6, E2DN5, E2DN4, E2DN3, E2DN2, E2DN1

The following samples were analyzed with soil aliquot volumes other than 100.0 µl:

E2DN1DL, E2DN2, E2DN3, E2DN4DL

100.0 µl was reduced to 50.0 µl simulating a 2-fold dilution

E2DN2DL

100.0 µl was reduced to 5.0 µl simulating a 20-fold dilution

E2DN3DL

100.0 µl was reduced to 1.0 µl simulating a 100-fold dilution

E2DN5DL, E2DN6DL

100.0 µl was reduced to 10.0 µl simulating a 10-fold dilution

Reviewed By: T. Sedlacek ESAT
Date: September 24, 2003

CADRE Data Qualifier Sheet

<u>Qualifiers</u>	<u>Data Qualifier Definitions</u>
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the action limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
N	The analysis indicates the present of an analyte for which there is presumptive evidence to make a tentative identification.
NJ	The analysis indicates the present of an analyte for which there is presumptive evidence to make a tentative identification and the associated numerical value represents its approximate concentration.
R	The data are unusable. (The compound may or may not be present)

TICS

Volatile Sample Analysis
Tentatively Identified Compounds

Sample Type:	Spike Original	Sample No.:	E2DN0
Lab ID:	CEIMIC	Location:	SB1-1
Case No.:	32024	Matrix/Level:	Soil/Med
SDG No.:	E2DN0	File Name:	E2DN0

CAS No.	Compound Name	Concentration		
		RT	(UG/KG)	Q*
	STRAIGHT-CHAIN ALKANE	21.22	1400	J
	UNKNOWN	21.52	1200	J
	UNKNOWN	21.93	810	J
	UNKNOWN ALKENE	22.16	3200	J
	UNKNOWN	22.41	2100	J
	BRANCHED ALKANE	22.74	1000	J
	STRAIGHT-CHAIN ALKANE	22.85	4600	J
	BRANCHED ALKANE	23.07	28000	J
	BRANCHED ALKANE	24.03	110000	J

*Q: Laboratory Qualifier

Volatile Sample Analysis
Tentatively Identified Compounds

Sample Type:	Routine Sample	Sample No.:	E2DN1
Lab ID:	CEIMIC	Location:	SB1-2
Case No.:	32024	Matrix/Level:	Soil/Med
SDG No.:	E2DN0	File Name:	E2DN0

CAS No.	Compound Name	Concentration		
		RT	(UG/KG)	Q*
	STRAIGHT-CHAIN ALKANE	6.76	730	J
	UNKNOWN	19.83	1000	J
	BRANCHED ALKANE	23.88	1400	J
	BRANCHED ALKANE	24.03	1800	J
	BRANCHED ALKANE	26.00	20000	J

*Q: Laboratory Qualifier

Volatile Sample Analysis
Tentatively Identified Compounds

Sample Type:	Routine Sample	Sample No.:	E2DN2
Lab ID:	CEIMIC	Location:	SB2-1
Case No.:	32024	Matrix/Level:	Soil/Med
SDG No.:	E2DN0	File Name:	E2DN0

CAS No.	Compound Name	Concentration		
		RT	(UG/KG)	Q*
	BRANCHED ALKANE	19.82	2700	J
	BRANCHED ALKANE	24.03	1800	J
	UNKNOWN	25.60	21000	J
	BRANCHED ALKANE	26.00	11000	J

*Q: Laboratory Qualifier

Volatile Sample Analysis
Tentatively Identified Compounds

Sample Type:	Routine Sample	Sample No.:	E2DN3
Lab ID:	CEIMIC	Location:	SB2-2
Case No.:	32024	Matrix/Level:	Soil/Med
SDG No.:	E2DN0	File Name:	E2DN0

CAS No.	Compound Name	Concentration		
		RT	(UG/KG)	Q*
107391	1-PENTENE, 2,4,4-TRIMETHYL-	10.90	4000	NJ
	STRAIGHT-CHAIN ALKANE	17.08	4700	J
	UNKNOWN	18.16	3500	J
	BRANCHED ALKANE	18.56	1900	J
	STRAIGHT-CHAIN ALKANE	19.35	6100	J
	CYCLIC ALKANE	20.33	1600	J
	C4-BENZENE ISOMER	20.73	2200	J
	STRAIGHT-CHAIN ALKANE	21.22	3100	J
	CYCLIC ALKANE	22.16	2500	J
	STRAIGHT-CHAIN ALKANE	24.50	10000	J
	BRANCHED ALKANE	26.00	4900	J

*Q: Laboratory Qualifier

Volatile Sample Analysis
Tentatively Identified Compounds

Sample Type:	Routine Sample	Sample No.:	E2DN3DL
Lab ID:	CEIMIC	Location:	SB2-2
Case No.:	32024	Matrix/Level:	Soil/Med
SDG No.:	E2DN0	File Name:	E2DN0

CAS No.	Compound Name	Concentration		
		RT	(UG/KG)	Q*
	UNKNOWN	6.79	110000	J
	STRAIGHT-CHAIN ALKANE	21.25	260000	J

*Q: Laboratory Qualifier

Volatile Sample Analysis
Tentatively Identified Compounds

Sample Type:	Routine Sample	Sample No.:	E2DN4
Lab ID:	CEIMIC	Location:	SB3-1
Case No.:	32024	Matrix/Level:	Soil/Med
SDG No.:	E2DN0	File Name:	E2DN0

CAS No.	Compound Name	Concentration		
		RT	(UG/KG)	Q*
	STRAIGHT-CHAIN ALKANE	6.74	1000	J
	UNKNOWN	19.65	820	J
	BRANCHED ALKANE	19.82	1700	J
	UNKNOWN	20.17	800	J
	CYCLIC ALKANE	20.33	1200	J
	BRANCHED ALKANE	20.47	1200	J
	UNKNOWN	20.74	1400	J
493027	NAPHTHALENE, DECAHYDRO-, TRANS-	21.10	750	NJ
	STRAIGHT-CHAIN ALKANE	21.22	3200	J
	CYCLIC ALKANE	21.52	2500	J
	CYCLIC ALKANE	22.17	750	J
	BRANCHED ALKANE	26.00	3700	J

*Q: Laboratory Qualifier

Volatile Sample Analysis
Tentatively Identified Compounds

Sample Type:	Routine Sample	Sample No.:	E2DN4DL
Lab ID:	CEIMIC	Location:	SB3-1
Case No.:	32024	Matrix/Level:	Soil/Med
SDG No.:	E2DN0	File Name:	E2DN0

CAS No.	Compound Name	Concentration		
		RT	(UG/KG)	Q*
	STRAIGHT-CHAIN ALKANE	21.22	5900	J

*Q: Laboratory Qualifier

Volatile Sample Analysis
Tentatively Identified Compounds

Sample Type:	Routine Sample	Sample No.:	E2DN5
Lab ID:	CEIMIC	Location:	SB3-2
Case No.:	32024	Matrix/Level:	Soil/Med
SDG No.:	E2DN0	File Name:	E2DN0

CAS No.	Compound Name	Concentration		
		RT	(UG/KG)	Q*
	UNKNOWN	20.73	770	J
	STRAIGHT-CHAIN ALKANE	21.23	3900	J
	UNKNOWN	25.87	810	J
	BRANCHED ALKANE	25.99	2300	J

*Q: Laboratory Qualifier

Volatile Sample Analysis
Tentatively Identified Compounds

Sample Type:	Routine Sample	Sample No.:	E2DN6
Lab ID:	CEIMIC	Location:	SB2-1-D
Case No.:	32024	Matrix/Level:	Soil/Med
SDG No.:	E2DN0	File Name:	E2DN0

CAS No.	Compound Name	Concentration		
		RT	(UG/KG)	Q*
	BRANCHED ALKANE	17.94	1800	J
	UNKNOWN	20.73	770	J
	UNKNOWN	26.45	15000	J

*Q: Laboratory Qualifier

Analytical Results (Qualified Data)

Page __1__ of __10__

Case #: 32024

SDG : E2DN0

Site :

FANSTEEL VULCAN MATERIALS

CEIMIC

Number of Soil Samples : 7

Number of Water Samples : 0

Reviewer :

Date :

Sample Number :	E2DN0	E2DN0MS	E2DN0MSD	E2DN1	E2DN1DL			
Sampling Location :	SB1-1	SB1-1	SB1-1	SB1-2	SB1-2			
Matrix :	Soil	Soil	Soil	Soil	Soil			
Units :	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg			
Date Sampled :	08/21/2003	08/21/2003	08/21/2003	08/21/2003	08/21/2003			
Time Sampled :								
%Moisture :	12	12	12	9	9			
pH :	7.0	7.0	7.0	7.0	7.0			
Dilution Factor :	1.0	1.0	1.0	1.0	1.0			
Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag
DICHLORODIFLUOROMETHANE	1400	U	1400	U	1400	U	1400	U
CHLOROMETHANE	1400	U	1400	U	1400	U	1400	U
VINYL CHLORIDE	1400	U	1400	U	1400	U	1400	U
BROMOMETHANE	1400	U	1400	U	1400	U	1400	U
CHLOROETHANE	1400	U	1400	U	1400	U	1400	U
TRICHLOROFUOROMETHANE	1400	U	1400	U	1400	U	1400	U
1,1-DICHLOROETHENE	1400	U	4200		4700	J	1400	U
1,1,2-TRICHLORO-1,2,2-TRIFLUORO	1400	U	1400	U	1400	U	1400	U
ACETONE	1400	U	1400	U	1400	U	1400	U
CARBON DISULFIDE	1400	U	1400	U	1400	U	1400	U
METHYL ACETATE	1400	U	1400	U	1400	U	1400	U
METHYLENE CHLORIDE	1400	UJ	1400	UJ	1400	UJ	1400	UJ
TRANS-1,2-DICHLOROETHENE	1400	U	1400	U	1400	U	1400	U
METHYL TERT-BUTYL ETHER	1400	U	1400	U	1400	U	1400	U
1,1-DICHLOROETHANE	1400	U	1400	U	1400	U	1400	U
CIS-1,2-DICHLOROETHENE	730	J	580	J	600	J	7400	
2-BUTANONE	1400	U	1400	U	1400	U	1400	U
CHLOROFORM	1400	U	1400	U	1400	U	1400	U
1,1,1-TRICHLOROETHANE	1400	U	1400	U	1400	U	1400	U
CYCLOHEXANE	1400	U	1400	U	1400	U	1400	U
CARBON TETRACHLORIDE	1400	U	1400	U	1400	U	1400	U
BENZENE	270	J	5800		5700	J	210	J
1,2-DICHLOROETHANE	1400	U	1400	U	1400	U	1400	U
TRICHLOROETHENE	7100	J	11000	J	13000	J	41000	J
METHYLCYCLOHEXANE	1400	U	1400	U	1400	U	1400	U
1,2-DICHLOROPROPANE	1400	U	1400	U	1400	U	1400	U
BROMODICHLOROMETHANE	1400	U	1400	U	1400	U	1400	U
CIS-1,3-DICHLOROPROPENE	1400	U	1400	U	1400	U	1400	U
4-METHYL-2-PENTANONE	1400	U	1400	U	1400	U	1400	U
TOLUENE	390	J	5900		6100	J	230	J
TRANS-1,3-DICHLOROPROPENE	1400	U	1400	U	1400	U	1400	U
1,1,2-TRICHLOROETHANE	1400	U	1400	U	1400	U	1400	U
TETRACHLOROETHENE	1400	U	1400	U	1400	U	380	J

Analytical Results (Qualified Data)

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Case #: 32024

SDG : E2DN0

Site :

FANSTEEL VULCAN MATERIALS

Lab. :

CEIMIC

Reviewer :

Date :

Sample Number :	E2DN0	E2DN0MS		E2DN0MSD		E2DN1		E2DN1DL		
Sampling Location :	SB1-1	SB1-1		SB1-1		SB1-2		SB1-2		
Matrix :	Soil	Soil		Soil		Soil		Soil		
Units :	ug/Kg	ug/Kg		ug/Kg		ug/Kg		ug/Kg		
Date Sampled :	08/21/2003	08/21/2003		08/21/2003		08/21/2003		08/21/2003		
Time Sampled :										
%Moisture :	12	12		12		9		9		
pH :	7.0	7.0		7.0		7.0		7.0		
Dilution Factor :	1.0	1.0		1.0		1.0		1.0		
Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2-HEXANONE	1400	U	1400	U	1400	U	1400	U	2700	U
DIBROMOCHLOROMETHANE	1400	U	1400	U	1400	U	1400	U	2700	U
1,2-DIBROMOETHANE	1400	U	1400	U	1400	U	1400	U	2700	U
CHLOROBENZENE	560	J	6300		6700	J	310	J	2700	U
ETHYLBENZENE	1400	U	1400	U	1400	U	1400	U	2700	U
XYLENES (TOTAL)	1400	U	1400	U	1400	U	1400	U	2700	U
STYRENE	1400	U	1400	U	1400	U	1400	U	2700	U
BROMOFORM	1400	U	1400	U	1400	U	1400	U	2700	U
ISOPROPYLBENZENE	1400	U	1400	U	1400	U	1400	U	2700	U
1,1,2,2-TETRACHLOROETHANE	1400	U	1400	U	1400	U	1400	U	2700	U
1,3-DICHLOROBENZENE	1400	U	1400	U	1400	U	1400	U	2700	U
1,4-DICHLOROBENZENE	1400	U	1400	U	1400	U	1400	U	2700	U
1,2-DICHLOROBENZENE	1400	U	1400	U	1400	U	1400	U	2700	U
1,2-DIBROMO-3-CHLOROPROPANE	1400	U	1400	U	1400	U	1400	U	2700	R
1,2,4-TRICHLOROBENZENE	1400	U	1400	U	1400	U	1400	U	2700	U

Analytical Results (Qualified Data)

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Case #: 32024

SDG : E2DN0

Site :

FANSTEEL VULCAN MATERIALS

Lab. :

CEIMIC

Reviewer :

Date :

Sample Number :	E2DN2	E2DN2DL	E2DN3	E2DN3DL	E2DN4					
Sampling Location :	SB2-1	SB2-1	SB2-2	SB2-2	SB3-1					
Matrix :	Soil	Soil	Soil	Soil	Soil					
Units :	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg					
Date Sampled :	08/21/2003	08/21/2003	08/21/2003	08/21/2003	08/21/2003					
Time Sampled :										
%Moisture :	15	15	14	14	14					
pH :	7.0	7.0	7.0	7.0	7.0					
Dilution Factor :	1.0	1.0	1.0	1.0	1.0					
Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag		
DICHLORODIFLUOROMETHANE	2900	U	29000	UJ	2900	U	150000	UJ	1500	U
CHLOROMETHANE	2900	U	29000	U	2900	U	150000	UJ	1500	U
VINYL CHLORIDE	2900	U	29000	U	2900	U	150000	UJ	1500	U
BROMOMETHANE	2900	U	29000	UJ	2900	U	150000	UJ	1500	U
CHLOROETHANE	2900	U	29000	U	2900	U	150000	UJ	1500	U
TRICHLORODIFLUOROMETHANE	2900	U	29000	U	2900	U	150000	UJ	1500	U
1,1-DICHLOROETHENE	2900	U	29000	U	2900	U	150000	UJ	1500	U
1,1,2-TRICHLORO-1,2,2-TRIFLUORO	2900	U	29000	U	2900	U	150000	UJ	1500	U
ACETONE	2900	U	29000	UJ	2900	U	150000	UJ	1500	U
CARBON DISULFIDE	2900	U	29000	UJ	2900	U	150000	UJ	1500	U
METHYL ACETATE	2900	U	29000	U	2900	U	150000	UJ	1500	U
METHYLENE CHLORIDE	2900	UJ	35000	UJ	2900	UJ	150000	UJ	1500	UJ
TRANS-1,2-DICHLOROETHENE	2900	U	29000	U	300	J	150000	UJ	1500	U
METHYL TERT-BUTYL ETHER	2900	U	29000	U	2900	U	150000	UJ	1500	U
1,1-DICHLOROETHANE	2900	U	29000	U	2900	U	150000	UJ	1500	U
CIS-1,2-DICHLOROETHENE	2300	J	29000	U	35000		27000	J	1900	
2-BUTANONE	2900	U	29000	U	2900	U	150000	UJ	1500	U
CHLOROFORM	2900	U	29000	U	2900	U	150000	UJ	1500	U
1,1,1-TRICHLOROETHANE	850	J	28000	U	2900	U	150000	UJ	1500	U
CYCLOHEXANE	2900	U	29000	U	2900	U	150000	UJ	1500	U
CARBON TETRACHLORIDE	2900	U	29000	U	2900	U	150000	UJ	1500	U
BENZENE	2900	U	29000	U	2900	U	150000	UJ	1500	U
1,2-DICHLOROETHANE	2900	U	29000	U	2900	U	150000	UJ	1500	U
TRICHLOROETHENE	270000	J	390000	J	450000	J	1100000	J	36000	J
METHYLCYCLOHEXANE	2900	U	29000	U	2900	U	150000	UJ	210	J
1,2-DICHLOROPROPANE	2900	U	29000	U	2900	U	150000	UJ	1500	U
BROMODICHLOROMETHANE	2900	U	29000	U	2900	U	150000	UJ	1500	U
CIS-1,3-DICHLOROPROPENE	2900	U	29000	U	2900	U	150000	UJ	1500	U
4-METHYL-2-PENTANONE	2900	U	29000	U	2900	U	150000	UJ	1500	U
TOLUENE	2900	U	29000	U	390	J	150000	UJ	1500	U
TRANS-1,3-DICHLOROPROPENE	2900	U	29000	U	2900	U	150000	UJ	1500	U
1,1,2-TRICHLOROETHANE	2900	U	29000	U	2900	U	150000	UJ	1500	U
TETRACHLOROETHENE	3700		29000	U	3200		150000	UJ	18000	

Analytical Results (Qualified Data)

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Case #: 32024

SDG : E2DN0

Site :

FANSTEEL VULCAN MATERIALS

Lab. :

CEIMIC

Reviewer :

Date :

Sample Number :	E2DN2	E2DN2DL	E2DN3	E2DN3DL	E2DN4					
Sampling Location :	SB2-1	SB2-1	SB2-2	SB2-2	SB3-1					
Matrix :	Soil	Soil	Soil	Soil	Soil					
Units :	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg					
Date Sampled :	08/21/2003	08/21/2003	08/21/2003	08/21/2003	08/21/2003					
Time Sampled :										
%Moisture :	15	15	14	14	14					
pH :	7.0	7.0	7.0	7.0	7.0					
Dilution Factor :	1.0	1.0	1.0	1.0	1.0					
Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2-HEXANONE	2900	U	29000	U	2900	U	50000	UJ	1500	U
DIBROMOCHLOROMETHANE	2900	U	29000	U	2900	U	150000	UJ	1500	U
1,2-DIBROMOPHANE	2900	UJ	29000	U	2900	U	150000	UJ	1500	U
CHLOROBENZENE	2900	U	29000	U	2900	U	150000	UJ	1500	U
ETHYLBENZENE	2900	U	29000	U	320	U	150000	UJ	1500	U
XYLENES (TOTAL)	2900	U	29000	U	2900	U	150000	UJ	1500	U
STYRENE	2900	U	29000	U	2900	U	150000	UJ	1500	U
BROMOFORM	2900	U	29000	U	2900	U	150000	UJ	1500	U
SOPROPYLBENZENE	2900	U	29000	U	2900	U	150000	UJ	1500	U
1,1,2,2-TETRACHLOROETHANE	2900	U	29000	U	2900	U	150000	UJ	1500	U
1,3-DICHLOROBENZENE	2900	U	29000	U	2900	U	150000	UJ	1500	U
1,4-DICHLOROBENZENE	2900	U	29000	U	2900	U	150000	UJ	1500	U
1,2-DICHLOROBENZENE	1500	UJ	29000	U	3700	U	150000	UJ	1500	U
1,2-DIBROMO-3-CHLOROPROPANE	2900	U	29000	R	2900	U	150000	R	1500	U
1,2,4-TRICHLOROBENZENE	2900	U	29000	U	2900	U	150000	UJ	1500	U

Analytical Results (Qualified Data)

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Case #: 32024

SDG : E2DN0

Site :

FANSTEEL VULCAN MATERIALS

Lab. :

CEIMIC

Reviewer :

Date :

Sample Number :	E2DN4DL	E2DN5	E2DN5DL	E2DN6	E2DN6DL
Sampling Location :	SB3-1	SB3-2	SB3-2	SB2-1-D	SB2-1-D
Matrix :	Soil	Soil	Soil	Soil	Soil
Units :	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Date Sampled :	08/21/2003	08/21/2003	08/21/2003	08/21/2003	08/21/2003
Time Sampled :					
%Moisture :	14	13	13	9	9
pH :	7.0	7.0	7.0	7.0	7.0
Dilution Factor :	1.0	1.0	1.0	1.0	1.0
Volatile Compound	Result	Flag	Result	Flag	Result
DICHLORODIFLUOROMETHANE	2900	UJ	1400	U	14000
CHLOROMETHANE	2900	U	1400	U	14000
VINYL CHLORIDE	2900	U	1400	U	14000
BROMOMETHANE	2900	UJ	1400	U	14000
CHLOROETHANE	2900	U	1400	U	14000
TRICHLOROFLUOROMETHANE	2900	U	1400	U	14000
1,1-DICHLOROETHENE	2900	U	1400	U	14000
1,1,2-TRICHLORO-1,2,2-TRIFLUORO	2900	U	1400	U	14000
ACETONE	2900	UJ	1400	U	14000
CARBON DISULFIDE	2900	UJ	1400	U	14000
METHYL ACETATE	2900	U	1400	U	14000
METHYLENE CHLORIDE	2900	UJ	1400	UJ	14000
TRANS-1,2-DICHLOROETHENE	2900	U	1400	U	14000
METHYL TERT-BUTYL ETHER	2900	U	1400	U	14000
1,1-DICHLOROETHANE	2900	U	1400	U	14000
CIS-1,2-DICHLOROETHENE	2900	U	8700	U	14000
2-BUTANONE	2900	U	1400	U	14000
CHLOROFORM	2900	U	1400	U	14000
1,1,1-TRICHLOROETHANE	2900	U	1400	U	14000
CYCLOHEXANE	2900	U	1400	U	14000
CARBON TETRACHLORIDE	2900	U	1400	U	14000
BENZENE	2900	U	1400	U	14000
1,2-DICHLOROETHANE	2900	U	1400	U	14000
TRICHLOROETHENE	34000	J	140000	J	230000
METHYLCYCLOHEXANE	2900	U	1400	U	14000
1,2-DICHLOROPROPANE	2900	U	1400	U	14000
BROMODICHLOROMETHANE	2900	U	1400	U	14000
CIS-1,3-DICHLOROPROPENE	2900	U	1400	U	14000
4-METHYL-2-PENTANONE	2900	U	1400	U	14000
TOLUENE	2900	U	180	J	14000
TRANS-1,3-DICHLOROPROPENE	2900	U	1400	U	14000
1,1,2-TRICHLOROETHANE	2900	U	1400	U	14000
TETRACHLOROETHENE	18000		27000		26000
					2200
					14000

Analytical Results (Qualified Data)

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Case #: 32024

SDG : E2DN0

Site :

FANSTEEL VULCAN MATERIALS

Lab. :

CEIMIC

Reviewer :

Date :

Sample Number :	E2DN4DL	E2DN5		E2DN5DL		E2DN6		E2DN6DL		
Sampling Location :	SB3-1	SB3-2		SB3-2		SB2-1-D		SB2-1-D		
Matrix :	Soil	Soil		Soil		Soil		Soil		
Units :	ug/Kg	ug/Kg		ug/Kg		ug/Kg		ug/Kg		
Date Sampled :	08/21/2003	08/21/2003		08/21/2003		08/21/2003		08/21/2003		
Time Sampled :										
%Moisture :	14	13		13		9		9		
pH :	7.0	7.0		7.0		7.0		7.0		
Dilution Factor :	1.0	1.0		1.0		1.0		1.0		
Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2-HEXANONE	2900	U	1400	U	14000	U	1400	U	14000	U
DIBROMOCHLOROMETHANE	2900	U	1400	U	14000	U	1400	U	14000	U
1,2-DIBROMOETHANE	2900	U	1400	U	14000	U	1400	U	14000	U
CHLOROBENZENE	2900	U	1400	U	14000	U	1400	U	14000	U
ETHYL BENZENE	2900	U	1400	U	14000	U	1400	U	14000	U
XYLEMES (TOTAL)	2900	U	1400	U	14000	U	1400	U	14000	U
STYRENE	2900	U	1400	U	14000	U	1400	U	14000	U
BROMOFORM	2900	U	1400	U	14000	U	1400	U	14000	U
ISOPROPYLBENZENE	2900	U	1400	U	14000	U	1400	U	14000	U
1,1,2,2-TETRACHLOROETHANE	2900	U	1400	U	14000	U	1400	U	14000	U
1,3-DICHLOROBENZENE	2900	U	1400	U	14000	U	1400	U	14000	U
1,4-DICHLOROBENZENE	2900	U	1400	U	14000	U	1400	U	14000	U
1,2-DICHLOROBENZENE	2900	U	1400	U	14000	U	700	J	14000	U
1,2-DIBROMO-3-CHLOROPROPANE	2900	R	1400	U	14000	R	1400	U	14000	R
1,2,4-TRICHLOROBENZENE	2900	U	1400	U	14000	U	1400	U	14000	U

Analytical Results (Qualified Data)

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Case #: 32024

SDG : E2DN0

Site :

FANSTEEL VULCAN MATERIALS

Lab. :

CEIMIC

Reviewer :

Date :

Sample Number :	VBLKPH	VBLKPN	VBLKPP						
Sampling Location :	Soil ug/Kg	Soil ug/Kg	Soil ug/Kg						
Matrix :									
Units :									
Date Sampled :									
Time Sampled :									
%Moisture :	N/A	N/A	N/A						
pH :									
Dilution Factor :	1.0	1.0	1.0						
Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result
DICHLORODIFLUOROMETHANE	1300	U	210	J	1300	UJ			
CHLOROMETHANE	300	J	180	J	1300	UJ			
VINYL CHLORIDE	1300	U	220	J	1300	U			
BROMOMETHANE	1300	U	1300	UJ	1300	U			
CHLOROETHANE	1300	U	1300	U	1300	UJ			
TRICHLOROFLUOROMETHANE	1300	U	1300	U	1300	U			
1,1-DICHLOROETHENE	1300	U	140	J	1300	UJ			
1,1,2-TRICHLORO-1,2,2-TRIFLUORO	1300	U	1300	U	1300	U			
ACETONE	240	J	340	J	390	J			
CARBON DISULFIDE	1300	U	220	J	1300	UJ			
METHYL ACETATE	1300	U	1300	U	1300	U			
METHYLENE CHLORIDE	160	J	1100	J	830	J			
TRANS-1,2-DICHLOROETHENE	1300	U	180	J	1300	U			
METHYL TERT-BUTYL ETHER	1300	U	1300	U	1300	U			
1,1-DICHLOROETHANE	1300	U	170	J	1300	U			
CIS-1,2-DICHLOROETHENE	1300	U	150	J	1300	U			
2-BUTANONE	1300	U	1300	U	1300	U			
CHLOROFORM	1300	U	150	J	1300	U			
1,1,1-TRICHLOROETHANE	1300	U	190	J	1300	U			
CYCLOHEXANE	1300	U	230	J	1300	U			
CARBON TETRACHLORIDE	1300	U	200	J	1300	U			
BENZENE	1300	U	170	J	1300	U			
1,2-DICHLOROETHANE	1300	U	1300	U	1300	U			
TRICHLOROETHENE	1300	U	190	J	1300	U			
METHYLCYCLOHEXANE	1300	U	240	J	1300	U			
1,2-DICHLOROPROPANE	1300	U	1300	U	1300	U			
BROMODICHLOROMETHANE	1300	U	1300	U	1300	U			
CIS-1,3-DICHLOROPROPENE	1300	U	1300	U	1300	U			
4-METHYL-2-PENTANONE	1300	U	1300	U	1300	U			
TOLUENE	1300	U	160	J	1300	U			
TRANS-1,3-DICHLOROPROPENE	1300	U	1300	U	1300	U			
1,1,2-TRICHLOROETHANE	1300	U	1300	U	1300	U			
TETRACHLOROETHENE	1300	U	190	J	1300	U			

Analytical Results (Qualified Data)

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Case #: 32024

SDG : E2DN0

Site :

FANSTEEL VULCAN MATERIALS

Lab. :

CEIMIC

Reviewer :

Date :

Sample Number :	VBLKPH	VBLKPN		VBLKPP						
Sampling Location :	Soil	Soil ug/Kg		Soil	ug/Kg					
Matrix :										
Units :										
Date Sampled :										
Time Sampled :										
%Moisture :	N/A		N/A		N/A					
pH :										
Dilution Factor :	1.0		1.0		1.0					
Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2-HEXANONE	1300	U	1300	U	1300	U				
DIBROMOCHLOROMETHANE	1300	U	1300	U	1300	U				
1,2-DIBROMOETHANE	1300	U	1300	U	1300	U				
CHLOROBENZENE	1300	U	140	J	1300	U				
ETHYLBENZENE	1300	U	150	J	1300	U				
XYLENES (TOTAL)	130	J	300	J	1300	U				
STYRENE	260	J	1300	U	1300	U				
BROMOFORM	1300	U	1300	U	1300	U				
ISOPROPYLBENZENE	1300	U	140	J	1300	U				
1,1,2,2-TETRACHLOROETHANE	1300	U	1300	U	1300	U				
1,3-DICHLOROBENZENE	1300	U	1300	U	1300	U				
1,4-DICHLOROBENZENE	1300	U	1300	U	1300	U				
1,2-DICHLOROBENZENE	1300	U	1300	U	1300	U				
1,2-DIBROMO-3-CHLOROPROPANE	1300	U	1300	R	1300	R				
1,2,4-TRICHLOROBENZENE	310	J	1300	U	1300	U				

Analytical Results (Qualified Data)

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Case #: 32024

Site :

Lab. :

Reviewer :

Date :

SDG : E2DNO

FANSTEEL VULCAN MATERIALS

CEIMIC

Sample Number :	VBLKPO	VHBLK01							
Sampling Location :									
Matrix :	Water	Water							
Units :	ug/L	ug/L							
Date Sampled :									
Time Sampled :									
%Moisture :	N/A	N/A							
pH :									
Dilution Factor :	1.0	1.0							
Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result
DICHLORODIFLUOROMETHANE	10	UJ	10	UJ					
CHLOROMETHANE	10	UJ	10	UJ					
VINYL CHLORIDE	10	U	10	U					
BROMOMETHANE	10	U	10	U					
CHLOROETHANE	10	UJ	10	UJ					
TRICHLOROFUOROMETHANE	10	U	10	U					
1,1-DICHLOROETHENE	10	UJ	10	UJ					
1,1,2-TRICHLORO-1,2,2-TRIFLUORO	10	U	10	U					
ACETONE	10	U	2	J					
CARBON DISULFIDE	10	UJ	10	UJ					
METHYL ACETATE	10	U	10	U					
METHYLENE CHLORIDE	2	J	14	UJ					
TRANS-1,2-DICHLOROETHENE	10	U	10	U					
METHYL TERT-BUTYL ETHER	10	U	10	U					
1,1-DICHLOROETHANE	10	U	10	U					
CIS-1,2-DICHLOROETHENE	10	U	10	U					
2-BUTANONE	10	U	10	U					
CHLOROFORM	10	U	10	U					
1,1,1-TRICHLOROETHANE	10	U	10	U					
CYCLOHEXANE	10	U	10	U					
CARBON TETRACHLORIDE	10	U	10	U					
BENZENE	10	U	10	U					
1,2-DICHLOROETHANE	10	U	10	U					
TRICHLOROETHENE	10	U	4	J					
METHYLCYLOHEXANE	10	U	10	U					
1,2-DICHLOROPROPANE	10	U	10	U					
BROMODICHLOROMETHANE	10	U	10	U					
CIS-1,3-DICHLOROPROPENE	10	U	10	U					
4-METHYL-2-PENTANONE	10	U	10	U					
TOLUENE	10	U	10	U					
TRANS-1,3-DICHLOROPROPENE	10	U	10	U					
1,1,2-TRICHLOROETHANE	10	U	10	U					
TETRACHLOROETHENE	10	U	10	U					

Analytical Results (Qualified Data)

Page _10_ of _10_

Case #: 32024

SDG : E2DNO

Site :

FANSTEEL VULCAN MATERIALS

Lab. :

CEIMIC

Reviewer :

Date :

Sample Number :	VBLKPO	VHBLK01							
Sampling Location :									
Matrix :	Water	Water							
Units :	ug/L	ug/L							
Date Sampled :									
Time Sampled :									
%Moisture :	N/A	N/A							
pH :									
Dilution Factor :	1.0	1.0							
Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result
2-HEXANONE	10	U	10	U					
DIBROMOCHLOROMETHANE	10	U	10	U					
1,2-DIBROMOETHANE	10	U	10	U					
CHLOROBENZENE	10	U	10	U					
ETHYLBENZENE	10	U	10	U					
XYLENES (TOTAL)	10	U	10	U					
STYRENE	10	U	10	U					
BROMOFORM	10	U	10	U					
ISOPROPYLBENZENE	10	U	10	U					
1,1,2,2-TETRACHLOROETHANE	10	U	10	U					
1,3-DICHLOROBENZENE	10	U	10	U					
1,4-DICHLOROBENZENE	10	U	10	U					
1,2-DICHLOROBENZENE	10	U	10	U					
1,2-DIBROMO-3-CHLOROPROPANE	10	R	10	R					
1,2,4-TRICHLOROBENZENE	10	U	10	U					

Regional Transmittal Form

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE:

SUBJECT: Review of Data

Received for Review on 9-5-03

FROM: Stephen L. Ostrodka, Chief (SMF-4J)
Superfund Field Services Section

TO: Data User: Tetra Tech

We have reviewed the data for the following case:

SITE NAME: Faosteel Vulcan Materials (1L)

CASE NUMBER: 32024 SDG NUMBER: E2D NO

Number and Type of Samples: 7 (Soil)

Sample Numbers: E2D NO - 6

Laboratory: C&M.C Hrs for Review: _____

Following are our findings:

CC: Cecilia Moore
Region 5 TPO
Mail Code: SMF-4J

**SAMPLE DELIVERY GROUP (SDG)
TRAFFIC REPORT (TR) COVERSHEET**

Lab Name: Ceimic Corporation

Lab Code: CEIMIC

Case No.: 32024

Bid Lot: B

Contract No: 68-W-03-018

Full Sample Analysis Price: \$375.00

First Sample in SDG: E2DN0

Sample Receipt Date: 8/22/2003

*(Lowest EPA Sample Number in the first
shipment of samples received under SDG.)*

Last Sample in SDG: E2DN6

Sample Receipt Date: 8/22/2003

*(Highest EPA Sample Number in the last
shipment of samples received under SDG.)*

EPA Sample Numbers in the SDG (listed in alphanumeric order by date received)

- | | |
|----------|-----|
| 1. E2DN0 | 11. |
| 2. E2DN1 | 12. |
| 3. E2DN2 | 13. |
| 4. E2DN3 | 14. |
| 5. E2DN4 | 15. |
| 6. E2DN5 | 16. |
| 7. E2DN6 | 17. |
| 8. | 18. |
| 9. | 19. |
| 10. | 20. |

Note: There are a maximum of 20 field samples in an SDG.

Attach Traffic Reports to this form in alphanumeric order by date received.
(i.e. The order listed on this form)

Jessica Robinson
Signature

8/29/03
Date



**USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record**

10

Case No: 32024

DAS No:

SDG No: EZDN0

Date Shipped: 8/21/2003 Carrier Name: FedEx Airbill: 835992094820 Shipped to: Ceimic Corporation 10 Dean Knauss Drive Narragansett RI 02882 (401) 782-8900	Chain of Custody Record		Sampler Signature:		For Lab Use Only	
	Relinquished By	(Date / Time)	Received By	(Date / Time)	Lab Contract No:	68W03018
	1 Scott Splitgerber	8/21/03 16:50	Elizabeth Stenig	8/22/03 10:00	Unit Price:	Bl 1
	2 EA	8/22/03			Transfer To:	EA
	3				Lab Contract No:	8/22/03
	4				Unit Price:	

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
E2DN0	Soil/Sediment/ Scott Splitgerber	L/G	VOA (21)	5-044774 (Ice Only), 5-044775 (Ice Only) (2)	SB1-1	S: 8/21/2003	ME2DN0	
E2DN1	Soil/Sediment/ Scott Splitgerber	L/G	VOA (21)	5-044777 (Ice Only), 5-044778 (Ice Only) (2)	SB1-2	S: 8/21/2003	ME2DN1	
E2DN2	Soil/Sediment/ Scott Splitgerber	L/G	VOA (21)	5-044780 (Ice Only), 5-044781 (Ice Only) (2)	SB2-1	S: 8/21/2003	ME2DN2	
E2DN3	Soil/Sediment/ Scott Splitgerber	L/G	VOA (21)	5-044783 (Ice Only), 5-044784 (Ice Only) (2)	SB2-2	S: 8/21/2003	ME2DN3	
E2DN4	Soil/Sediment/ Scott Splitgerber	L/G	VOA (21)	5-044786 (Ice Only), 5-044787 (Ice Only) (2)	SB3-1	S: 8/21/2003	ME2DN4	
E2DN5	Soil/Sediment/ Scott Splitgerber	L/G	VOA (21)	5-044789 (Ice Only), 5-044790 (Ice Only) (2)	SB3-2	S: 8/21/2003	ME2DN5	
E2DN6	Soil/Sediment/ Scott Splitgerber	L/G	VOA (21)	5-044792 (Ice Only), 5-044793 (Ice Only) (2)	SB2-1-D	S: 8/21/2003	ME2DN6	
E2DN7	Ground Water/ Spring Water	L/G	VOA (21)	5-044794 (Ice Only), 5-044795 (Ice Only) (2)				
E2DN8	Ground Water/ Spring Water	L/G	VOA (21)	5-044796 (Ice Only), 5-044797 (Ice Only) (2)				

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC: E2DN0	Additional Sampler Signature(s):	Colder Temperature Upon Receipt: CA 8/22/03	Chain of Custody Seal Number: 88218
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High VOA = CLP TCL Volatiles	Type/Designate: Composite = C, Grab = G	Custody Seal Intact? <input checked="" type="checkbox"/>	Shipment Iced? <input checked="" type="checkbox"/>

TR Number: 5-425252540-082003-0002

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, 2000 Edmund Halley Dr., Reston, VA 20191-3400 Phone 703/264-9348 Fax 703/264-9222

LABORATORY COPY

SEP 05 2003

SDG Narrative

The enclosed data package is in response to USEPA, Region V, Case No. 32024, SDG No. E2DN0, Contract No. 68-W-03-018. Under this SDG there are 9 VOA analyses for 7 soil samples received at Ceimic Corporation on August 22, 2003.

EPA ID:	CEIMIC ID:	Analysis
E2DN0	031136-01	VOA
E2DN0MS	031136-01MS	VOA
E2DN0MSD	031136-01MSD	VOA
E2DN1	031136-02	VOA
E2DN2	031136-03	VOA
E2DN3	031136-04	VOA
E2DN4	031136-05	VOA
E2DN5	031136-06	VOA
E2DN6	031136-07	VOA

Sample Receipt

Cooler Temperatures upon receipt were 2°C.

(2) Instrumentation and Column Identification

The following instruments were used for the analyses:

GC/ECD Analysis

A. VOA

MS15 HP5970B GC/MS, 105m, 0.53mm ID, 3 um, RTX-VOL megabore column
OI trap #10 (8cm Tenax, 8cm silica gel, 8cm carbon molecular sieve)

MS16 HP5972 GC/MS, 30m, 0.32mm ID, 1.8 um, DB-624 capillary column.
OI trap #10 (8cm Tenax, 8cm silica gel, 8cm carbon molecular sieve)

(3) Sample Information

An "x" qualifier is flagged by Target Thru-put software whenever the data is manually edited. The letters "M" for GC/MS and "FF" for GC are used on the raw data of the quantitation report whenever a manual integration is performed. Manual integrations are performed on GC/MS and GC standards and samples when computer generated integration picks up only a portion of the chromatographic peak, due to software limitations. When manual integrations are required, these integrations are performed using sound defensible professional judgment, in order to report accurate data. Each manual integration is signed and dated, and

reviewed by both the lab supervisor and the GC/MS Interpretation Specialist for GC/MS or the Organic Lab Manager for Pest/PCB.

A. VOA Fraction (Method CLP SOW OLM04.3)

The %moistures of the soil samples were:

<u>Client ID:</u>	<u>Ceimic ID:</u>	<u>%M:</u>
E2DN0	031136-01	12
E2DN1	031136-02	9
E2DN2	031136-03	15
E2DN3	031136-04	14
E2DN4	031136-05	14
E2DN5	031136-06	13
E2DN6	031136-07	9

The following samples were analyzed as Medium Level Solids:

<u>Client ID:</u>	<u>Ceimic ID:</u>	<u>Aliquot Volume</u>
E2DN0	031136-01	100.0µL/5.0mL
E2DN1	031136-02	100.0µL/5.0mL
E2DN2	031136-03	50.0µL/5.0mL
E2DN3	031136-04	50.0µL/5.0mL
E2DN4	031136-05	100.0µL/5.0mL
E2DN5	031136-06	100.0µL/5.0mL
E2DN6	031136-07	100.0µL/5.0mL

The following samples were re-analyzed at a dilution:

<u>Client ID:</u>	<u>Ceimic ID:</u>	<u>Diluted Aliquot Volume</u>
E2DN1DL	031136-02DL	50.0µL/5.0mL
E2DN2DL	031136-03DL	5.0µL/5.0mL
E2DN3DL	031136-04DL	1.0µL/5.0mL
E2DN4DL	031136-05DL	50.0µL/5.0mL
E2DN5DL	031136-06DL	10.0µL/5.0mL
E2DN6DL	031136-07DL	10.0µL/5.0mL

A. Holding Times

Holding time requirements were met for the initial analyses of all of these samples. However, the initial analyses of samples E2DN1, E2DN2, E2DN3, E2DN4, E2DN5 and E2DN6 were outside of our established calibration range. These samples were reanalyzed at dilutions outside of holding time, and met all quality control criteria. The Target Compound List (TCL) analytes and

Tentatively Identified Compound (TIC) results matched well between the two analyses. We have reported both analyses of these samples.

B. Manual Integrations

Manual quantitations were performed on one or more of the process files associated with this SDG, including samples E2DN0, E2DN1, E2DN4, E2DNS and E2DN1DL.

Deviations from the SOW

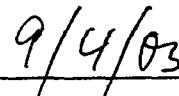
None other than specified above.

End of SDG Narrative

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the laboratory manager or his/her designee, as verified by the following signature.



Ines Bauer
Laboratory Manager



Date

ALKANE NARRATIVE REPORT
Report date : 09/04/2003
SDG: E2DN0

Client Sample ID: E2DN0 Lab Sample ID: 031136-01 File ID: P9502
Compound RT Est. Conc. Q

Straight-chain Alkane	21.22	1400	J
Branched Alkane	22.74	1000	J
Straight-chain Alkane	22.85	4600	J
Branched Alkane	23.07	28000	J
Branched Alkane	24.03	110000	J

Client Sample ID: E2DN1 Lab Sample ID: 031136-02 File ID: P9505
Compound RT Est. Conc. Q

Straight-chain Alkane	6.76	730	J
Branched Alkane	23.88	1400	J
Branched Alkane	24.03	1800	J
Branched Alkane	26.00	20000	J

Client Sample ID: E2DN2 Lab Sample ID: 031136-03 File ID: P9506
Compound RT Est. Conc. Q

Branched Alkane	19.82	2700	J
Branched Alkane	24.03	1800	J
Branched Alkane	26.00	11000	J

Client Sample ID: E2DN3 Lab Sample ID: 031136-04 File ID: P9507
Compound RT Est. Conc. Q

Straight-chain Alkane	17.08	4700	J
Branched Alkane	18.56	1900	J
Straight-chain Alkane	19.35	6100	J
Cyclic Alkane	20.33	1600	J
Straight-chain Alkane	21.22	3100	J
Cyclic Alkane	22.16	2500	J
Straight-chain Alkane	24.50	10000	J
Branched Alkane	26.00	4900	J

Client Sample ID: E2DN4 Lab Sample ID: 031136-05 File ID: P9508
Compound RT Est. Conc. Q

Straight-chain Alkane	6.74	1000	J
Branched Alkane	19.82	1700	J
Cyclic Alkane	20.33	1200	J
Branched Alkane	20.47	1200	J
Straight-chain Alkane	21.22	3200	J
Cyclic Alkane	21.52	2500	J
Cyclic Alkane	22.17	750	J
Branched Alkane	26.00	3700	J

Client Sample ID: E2DN5 Lab Sample ID: 031136-06 File ID: P9509
Compound RT Est. Conc. Q

Straight-chain Alkane	21.23	3900	J
Branched Alkane	25.99	2300	J

Client Sample ID: E2DN6 Compound	Lab Sample ID: 031136-07 RT	File ID: P9510 Q
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Branched Alkane	17.94	1800	J
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Client Sample ID: E2DN4DL Compound	Lab Sample ID: 031136-05DL RT	File ID: P9553 Q
---------------------------------------	----------------------------------	---------------------

Straight-chain Alkane	21.22	5900	J
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Client Sample ID: E2DN3DL Compound	Lab Sample ID: 031136-04DL RT	File ID: P9567 Q
---------------------------------------	----------------------------------	---------------------

Straight-chain Alkane	21.25	260000	J
-----------------------	-------	--------	---

Medium Level Soil

Adjusted CRQL = Contract CRQL times (Wx times Vt times Vy times 1000 times Df)/(Ws times Vc times Va times D)

Wx = Contract sample weight (4 g)

Vt = Volume of methanol in milliliters (10 ml)

Vy = Contract soil aliquot from methanol extract (100 ul)

Df = Dilution factor, (ul of most conc extract plus ul of clean solvent)/ul most conc extract

Ws = Weight of sample added to the purge tube in grams

Vc = contract soil methanol extract volume (10000 ul)

Va = volume of aliquot of sample methanol extract in ul added to reagent water for purging

Sample ID	Wx (g)	Df	Numerator	Ws (g)	D	Denominator	Quotient	Contract CRQL	Adjusted CRQL
E2DN0	4	1	4000000	4	0.88	3520000	1.136364	1200	1363.64
E2DN1	4	1	4000000	4	0.91	3640000	1.098901	1200	1318.68
E2DN2	4	1	4000000	4	0.85	3400000	1.176471	1200	1411.76
E2DN3	4	1	4000000	4	0.86	3440000	1.162791	1200	1395.35
E2DN4	4	1	4000000	4	0.86	3440000	1.162791	1200	1395.35
E2DN5	4	1	4000000	4	0.87	3480000	1.149425	1200	1379.31
E2DN6	4	1	4000000	4	0.91	3640000	1.098901	1200	1318.68

2B
SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC

Case No.: 32024

SAS No.:

SDG No.: E2DN0

Level: (low/med) MED

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
01	VBLKPH	102	102	108		0
02	E2DN0	101	101	97		0
03	E2DN0MS	100	103	93		0
04	E2DN0MSD	107	101	143*		1
05	E2DN1	102	98	94		0
06	E2DN2	100	100	93		0
07	E2DN3	100	100	93		0
08	E2DN4	103	99	94		0
09	E2DN5	100	100	94		0
10	E2DN6	100	98	94		0
11	VBLKPN	103	102	102		0
12	E2DN1DL	108	100	108		0
13	E2DN2DL	100	100	107		0
14	E2DN4DL	100	100	107		0
15	E2DN5DL	103	99	109		0
16	E2DN6DL	105	97	109		0
17	VBLKPP	113	100	102		0
18	E2DN3DL	101	84	101		0
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

QC LIMITS

SMC1 (TOL) = Toluene-d8 (84-138)
 SMC2 (BFB) = Bromofluorobenzene (59-113)
 SMC3 (DCE) = 1,2-Dichloroethane-d4 (70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

2A
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC

Case No.: 32024

SAS No.:

SDG No.: E2DN0

EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
01 VBLKPO	100	94	102		0
02 VHBLK01	100	88	98		0
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
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16					
17					
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20					
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22					
23					
24					
25					
26					
27					
28					
29					
30					

SMC1 (TOL) = Toluene-d8	QC LIMITS (88-110)
SMC2 (BFB) = Bromofluorobenzene	(86-115)
SMC3 (DCE) = 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

3B
SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC

Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix Spike - EPA Sample No.: E2DN0

Level: (low/med) MED

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	6800	0.0	4200	62	59-172
Trichloroethene	6800	7100	11000	57*	62-137
Benzene	6800	270	5800	81	66-142
Toluene	6800	390	5900	81	59-139
Chlorobenzene	6800	560	6300	84	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
1,1-Dichloroethene	6800	4700	69	11	22	59-172
Trichloroethene	6800	13000	87	42*	24	62-137
Benzene	6800	5700	80	1	21	66-142
Toluene	6800	6100	84	4	21	59-139
Chlorobenzene	6800	6700	90	7	21	60-133

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 1 out of 5 outside limits

Spike Recovery: 1 out of 10 outside limits

COMMENTS: _____

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKPH

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024

SAS No.: SDG No.: E2DN0

Lab File ID: P9499

Lab Sample ID: V160830M-B2

Date Analyzed: 08/30/03

Time Analyzed: 1117

GC Column: RTX-624 ID: 0.25 (mm)

Heated Purge: (Y/N) N

Instrument ID: MS16

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	E2DN0	031136-01	P9502	1314
02	E2DN0MS	031136-01MS	P9503	1352
03	E2DN0MSD	031136-01MSD	P9504	1431
04	E2DN1	031136-02	P9505	1509
05	E2DN2	031136-03	P9506	1547
06	E2DN3	031136-04	P9507	1625
07	E2DN4	031136-05	P9508	1702
08	E2DN5	031136-06	P9509	1738
09	E2DN6	031136-07	P9510	1814
10				
11				
12				
13				
14				
15				
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20				
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25				
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30				

COMMENTS: _____

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKPN

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024

SAS No.: SDG No.: E2DN0

Lab File ID: P9546

Lab Sample ID: V160903M-B1

Date Analyzed: 09/03/03

Time Analyzed: 1219

GC Column: RTX-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

Instrument ID: MS16

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	E2DN1DL	031136-02DL	P9550	1446
02	E2DN2DL	031136-03DL	P9551	1521
03	E2DN4DL	031136-05DL	P9553	1630
04	E2DN5DL	031136-06DL	P9554	1704
05	E2DN6DL	031136-07DL	P9555	1738
06				
07				
08				
09				
10				
11				
12				
13				
14				
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30				

COMMENTS: _____

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKPP

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024

SAS No.: SDG No.: E2DN0

Lab File ID: P9566

Lab Sample ID: V160904M-B1

Date Analyzed: 09/04/03

Time Analyzed: 1053

GC Column: RTX-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

Instrument ID: MS16

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01 E2DN3DL	031136-04DL	P9567	1139
02			
03			
04			
05			
06			
07			
08			
09			
10			
11			
12			
13			
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27			
28			
29			
30			

COMMENTS:

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKPO

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024

SAS No.: SDG No.: E2DN0

Lab File ID: P9565

Lab Sample ID: V160904-B1

Date Analyzed: 09/04/03

Time Analyzed: 0956

GC Column: RTX-624 ID: 0.25 (mm)

Heated Purge: (Y/N) N

Instrument ID: MS16

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VHBLK01	031136-21	P9568	1214
02				
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COMMENTS: _____

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

E2DN0

Lab Code: CEIMIC

Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-01

Sample wt/vol:

4.0 (g/mL) G

Lab File ID: P9502

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 12

Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 100.0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		
75-71-8	Dichlorodifluoromethane	1500	U
74-87-3	Chloromethane	1500	U
75-01-4	Vinyl Chloride	1500	U
74-83-9	Bromomethane	1500	U
75-00-3	Chloroethane	1500	U
75-69-4	Trichlorofluoromethane	1500	U
75-35-4	1,1-Dichloroethene	1500	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1500	U
67-64-1	Acetone	400 280	JB u
75-15-0	Carbon Disulfide	1500	U
79-20-9	Methyl Acetate	1500	U
75-09-2	Methylene Chloride	1400 780	JB MJ
156-60-5	trans-1,2-Dichloroethene	1500	U
1634-04-4	Methyl tert-Butyl Ether	1500	U
75-34-3	1,1-Dichloroethane	1500	U
156-59-2	cis-1,2-Dichloroethene	730	J
78-93-3	2-Butanone	1500	U
67-66-3	Chloroform	1500	U
71-55-6	1,1,1-Trichloroethane	1500	U
110-82-7	Cyclohexane	1500	U
56-23-5	Carbon Tetrachloride	1500	U
71-43-2	Benzene	270	J
107-06-2	1,2-Dichloroethane	1500	U

DL=1400

D/M
4/23/

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E2DN0

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024 SAS No.: SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-01

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9502

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 12

Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 100.0 (uL)

CAS NO. COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

79-01-6	Trichloroethene	7100	J
108-87-2	Methylcyclohexane	1500	U
78-87-5	1,2-Dichloropropane	1500	U
75-27-4	Bromodichloromethane	1500	U
10061-01-5	cis-1,3-Dichloropropene	1500	U
108-10-1	4-Methyl-2-Pentanone	1500	U
108-88-3	Toluene	390	J
10061-02-6	trans-1,3-Dichloropropene	1500	U
79-00-5	1,1,2-Trichloroethane	1500	U
127-18-4	Tetrachloroethene	1500	U
591-78-6	2-Hexanone	1500	U
124-48-1	Dibromochloromethane	1500	U
106-93-4	1,2-Dibromoethane	1500	U
108-90-7	Chlorobenzene	560	J
100-41-4	Ethylbenzene	1500	U
1330-20-7	Xylene (Total)	1500	U
100-42-5	Styrene	1500	U
75-25-2	Bromoform	1500	U
98-82-8	Isopropylbenzene	1500	U
79-34-5	1,1,2,2-Tetrachloroethane	1500	U
541-73-1	1,3-Dichlorobenzene	1500	U
106-46-7	1,4-Dichlorobenzene	1500	U
95-50-1	1,2-Dichlorobenzene	1500	U
96-12-8	1,2-Dibromo-3-chloropropane	1500	U
120-82-1	1,2,4-Trichlorobenzene	1500	U

DL=1400

JULY
4/23/

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

E2DN0

Lab Code: CEIMIC Case No.: 32024

SAS No.: SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-01

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9502

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 12

Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 100.0 (uL)

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	21.52	1200	J
2.	UNKNOWN	21.93	810	J
3.	UNKNOWN ALKENE	22.16	3200	J
4.	UNKNOWN	22.41	2100	J
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

E2DN0MS

Lab Code: CEIMIC

Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-01MS

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9503

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 12

Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 100.0 (uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

75-71-8	Dichlorodifluoromethane	1500	U
74-87-3	Chloromethane	1500	U
75-01-4	Vinyl Chloride	1500	U
74-83-9	Bromomethane	1500	U
75-00-3	Chloroethane	1500	U
75-69-4	Trichlorofluoromethane	1500	U
75-35-4	1,1-Dichloroethene	4200	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1500	U
67-64-1	Acetone	1500	U
75-15-0	Carbon Disulfide	1500	U
79-20-9	Methyl Acetate	1500	U
75-09-2	Methylene Chloride	1500	JB μ
156-60-5	trans-1,2-Dichloroethene	1500	U
1634-04-4	Methyl tert-Butyl Ether	1500	U
75-34-3	1,1-Dichloroethane	1500	U
156-59-2	cis-1,2-Dichloroethene	580	J
78-93-3	2-Butanone	1500	U
67-66-3	Chloroform	1500	U
71-55-6	1,1,1-Trichloroethane	1500	U
110-82-7	Cyclohexane	1500	U
56-23-5	Carbon Tetrachloride	1500	U
71-43-2	Benzene	5800	
107-06-2	1,2-Dichloroethane	1500	U

Oct 24 -03
X228

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

E2DN0MS

Lab Code: CEIMIC Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-01MS

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9503

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 12

Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 100.0 (uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

79-01-6	Trichloroethene	11000	
108-87-2	Methylcyclohexane	1500	U
78-87-5	1,2-Dichloropropane	1500	U
75-27-4	Bromodichloromethane	1500	U
10061-01-5	cis-1,3-Dichloropropene	1500	U
108-10-1	4-Methyl-2-Pentanone	1500	U
108-88-3	Toluene	5900	
10061-02-6	trans-1,3-Dichloropropene	1500	U
79-00-5	1,1,2-Trichloroethane	1500	U
127-18-4	Tetrachloroethene	1500	U
591-78-6	2-Hexanone	1500	U
124-48-1	Dibromochloromethane	1500	U
106-93-4	1,2-Dibromoethane	1500	U
108-90-7	Chlorobenzene	6300	
100-41-4	Ethylbenzene	1500	U
1330-20-7	Xylene (Total)	1500	U
100-42-5	Styrene	1500	U
75-25-2	Bromoform	1500	U
98-82-8	Isopropylbenzene	1500	U
79-34-5	1,1,2,2-Tetrachloroethane	1500	U
541-73-1	1,3-Dichlorobenzene	1500	U
106-46-7	1,4-Dichlorobenzene	1500	U
95-50-1	1,2-Dichlorobenzene	1500	U
96-12-8	1,2-Dibromo-3-chloropropane	1500	U
120-82-1	1,2,4-Trichlorobenzene	1500	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E2DN0MSD

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024 SAS No.: SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-01MSD

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9504

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 12

Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 100.0 (uL)

CAS NO. COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

75-71-8	Dichlorodifluoromethane	1500	U
74-87-3	Chloromethane	1500	U
75-01-4	Vinyl Chloride	1500	U
74-83-9	Bromomethane	1500	U
75-00-3	Chloroethane	1500	U
75-69-4	Trichlorofluoromethane	1500	U
75-35-4	1,1-Dichloroethene	4700	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1500	U
67-64-1	Acetone	1500	U
75-15-0	Carbon Disulfide	1500	U
79-20-9	Methyl Acetate	1500	U
75-09-2	Methylene Chloride	1500	640 JB u
156-60-5	trans-1,2-Dichloroethene	1500	U
1634-04-4	Methyl tert-Butyl Ether	1500	U
75-34-3	1,1-Dichloroethane	1500	U
156-59-2	cis-1,2-Dichloroethene	600	J
78-93-3	2-Butanone	1500	U
67-66-3	Chloroform	1500	U
71-55-6	1,1,1-Trichloroethane	1500	U
110-82-7	Cyclohexane	1500	U
56-23-5	Carbon Tetrachloride	1500	U
71-43-2	Benzene	5700	
107-06-2	1,2-Dichloroethane	1500	U

ACQ 9-26-03

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

E2DN0MSD

Lab Code: CEIMIC Case No.: 32024 SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-01MSD

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9504

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 12

Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 100.0 (uL)

CAS NO. COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

79-01-6	Trichloroethene	13000	
108-87-2	Methylcyclohexane	1500	U
78-87-5	1,2-Dichloropropane	1500	U
75-27-4	Bromodichloromethane	1500	U
10061-01-5	cis-1,3-Dichloropropene	1500	U
108-10-1	4-Methyl-2-Pentanone	1500	U
108-88-3	Toluene	6100	
10061-02-6	trans-1,3-Dichloropropene	1500	U
79-00-5	1,1,2-Trichloroethane	1500	U
127-18-4	Tetrachloroethene	1500	U
591-78-6	2-Hexanone	1500	U
124-48-1	Dibromochloromethane	1500	U
106-93-4	1,2-Dibromoethane	1500	U
108-90-7	Chlorobenzene	6700	
100-41-4	Ethylbenzene	1500	U
1330-20-7	Xylene (Total)	1500	U
100-42-5	Styrene	1500	U
75-25-2	Bromoform	1500	U
98-82-8	Isopropylbenzene	1500	U
79-34-5	1,1,2,2-Tetrachloroethane	1500	U
541-73-1	1,3-Dichlorobenzene	1500	U
106-46-7	1,4-Dichlorobenzene	1500	U
95-50-1	1,2-Dichlorobenzene	1500	U
96-12-8	1,2-Dibromo-3-chloropropane	1500	U
120-82-1	1,2,4-Trichlorobenzene	1500	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

E2DN1

Lab Code: CEIMIC

Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-02

Sample wt/vol:

4.0 (g/mL) G

Lab File ID: P9505

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 9

Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 100.0 (uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

75-71-8	Dichlorodifluoromethane	1400	U
74-87-3	Chloromethane	1400	U
75-01-4	Vinyl Chloride	1400	U
74-83-9	Bromomethane	1400	U
75-00-3	Chloroethane	1400	U
75-69-4	Trichlorodifluoromethane	1400	U
75-35-4	1,1-Dichloroethene	1400	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1400	U
67-64-1	Acetone	1400 330	JB d
75-15-0	Carbon Disulfide	1400	U
79-20-9	Methyl Acetate	1400	U
75-09-2	Methylene Chloride	1400 720	JB (U)
156-60-5	trans-1,2-Dichloroethene	1400	U
1634-04-4	Methyl tert-Butyl Ether	1400	U
75-34-3	1,1-Dichloroethane	1400	U
156-59-2	cis-1,2-Dichloroethene	7400	
78-93-3	2-Butanone	1400	U
67-66-3	Chloroform	1400	U
71-55-6	1,1,1-Trichloroethane	1400	U
110-82-7	Cyclohexane	1400	U
56-23-5	Carbon Tetrachloride	1400	U
71-43-2	Benzene	210	J
107-06-2	1,2-Dichloroethane	1400	U

DNS
8/29/03

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E2DN1

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024 SAS No.: SDG No.: E2DN0

Matrix: (soil/water) SOIL Lab Sample ID: 031136-02

Sample wt/vol: 4.0 (g/mL) G Lab File ID: P9505

Level: (low/med) MED Date Received: 08/22/03

% Moisture: not dec. 9 Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100.0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	41000	E
79-01-6	Trichloroethene	1400	U
108-87-2	Methylcyclohexane	1400	U
78-87-5	1,2-Dichloropropane	1400	U
75-27-4	Bromodichloromethane	1400	U
10061-01-5	cis-1,3-Dichloropropene	1400	U
108-10-1	4-Methyl-2-Pentanone	1400	U
108-88-3	Toluene	230	J
10061-02-6	trans-1,3-Dichloropropene	1400	U
79-00-5	1,1,2-Trichloroethane	1400	U
127-18-4	Tetrachloroethene	380	J
591-78-6	2-Hexanone	1400	U
124-48-1	Dibromochloromethane	1400	U
106-93-4	1,2-Dibromoethane	1400	U
108-90-7	Chlorobenzene	310	J
100-41-4	Ethylbenzene	1400	U
1330-20-7	Xylene (Total)	1400	U
100-42-5	Styrene	1400	JB u
75-25-2	Bromoform	1400	U
98-82-8	Isopropylbenzene	1400	U
79-34-5	1,1,2,2-Tetrachloroethane	1400	U
541-73-1	1,3-Dichlorobenzene	1400	U
106-46-7	1,4-Dichlorobenzene	1400	U
95-50-1	1,2-Dichlorobenzene	1400	U
96-12-8	1,2-Dibromo-3-chloropropane	1400	U
120-82-1	1,2,4-Trichlorobenzene	1400	U

DMS
8/30/03

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E2DN1

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC

Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-02

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9505

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 9

Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 100.0 (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	19.83	1000	J
2.				
3.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E2DN1DL

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-02DL

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9550

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 9

Date Analyzed: 09/03/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0 ~ 2.0 *act 9/24/03*

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 50.0 (uL)

CAS NO. COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

75-71-8	Dichlorodifluoromethane	2900	U
74-87-3	Chloromethane	2900	U
75-01-4	Vinyl Chloride	2900	U
74-83-9	Bromomethane	2900	U
75-00-3	Chloroethane	2900	U
75-69-4	Trichlorodifluoromethane	2900	U
75-35-4	1,1-Dichloroethene	2900	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2900	U
67-64-1	Acetone	2700	DBB W
75-15-0	Carbon Disulfide	2900	U
79-20-9	Methyl Acetate	2900	U
75-09-2	Methylene Chloride	2700	DBB W
156-60-5	trans-1,2-Dichloroethene	2900	U
1634-04-4	Methyl tert-Butyl Ether	2900	U
75-34-3	1,1-Dichloroethane	2900	U
156-59-2	cis-1,2-Dichloroethene	7800	DB
78-93-3	2-Butanone	2900	U
67-66-3	Chloroform	2900	U
71-55-6	1,1,1-Trichloroethane	2900	U
110-82-7	Cyclohexane	2900	U
56-23-5	Carbon Tetrachloride	2900	U
71-43-2	Benzene	2900	U
107-06-2	1,2-Dichloroethane	2900	U

DL-2700
DAB
9/23/03

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

E2DN1DL

Lab Code: CEIMIC Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-02DL

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9550

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 9

Date Analyzed: 09/03/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 50.0 (uL)

CAS NO. COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

79-01-6	Trichloroethene	48000	DB
108-87-2	Methylcyclohexane	2900	U
78-87-5	1,2-Dichloropropane	2900	U
75-27-4	Bromodichloromethane	2900	U
10061-01-5	cis-1,3-Dichloropropene	2900	U
108-10-1	4-Methyl-2-Pentanone	2900	U
108-88-3	Toluene	2900	U
10061-02-6	trans-1,3-Dichloropropene	2900	U
79-00-5	1,1,2-Trichloroethane	2900	U
127-18-4	Tetrachloroethene	2700 420	DJB U
591-78-6	2-Hexanone	2900	U
124-48-1	Dibromochloromethane	2900	U
106-93-4	1,2-Dibromoethane	2900	U
108-90-7	Chlorobenzene	2900	U
100-41-4	Ethylbenzene	2900	U
1330-20-7	Xylene (Total)	2900	U
100-42-5	Styrene	2900	U
75-25-2	Bromoform	2900	U
98-82-8	Isopropylbenzene	2900	U
79-34-5	1,1,2,2-Tetrachloroethane	2900	U
541-73-1	1,3-Dichlorobenzene	2900	U
106-46-7	1,4-Dichlorobenzene	2900	U
95-50-1	1,2-Dichlorobenzene	2900	U
96-12-8	1,2-Dibromo-3-chloropropane	2900	U
120-82-1	1,2,4-Trichlorobenzene	2900	U

DL = 2700 208
9/12/03

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

E2DN2

Lab Code: CEIMIC Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-03

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9506

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 15

Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 50.0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND			
79-01-6	Trichloroethene	270000	E	
108-87-2	Methylcyclohexane	3100	U	
78-87-5	1,2-Dichloropropane	3100	U	
75-27-4	Bromodichloromethane	3100	U	
10061-01-5	cis-1,3-Dichloropropene	3100	U	
108-10-1	4-Methyl-2-Pentanone	3100	U	
108-88-3	Toluene	3100	U	
10061-02-6	trans-1,3-Dichloropropene	3100	U	
79-00-5	1,1,2-Trichloroethane	3100	U	
127-18-4	Tetrachloroethene	3700		
591-78-6	2-Hexanone	3100	U	
124-48-1	Dibromochloromethane	3100	U	
106-93-4	1,2-Dibromoethane	3100	U	
108-90-7	Chlorobenzene	3100	U	
100-41-4	Ethylbenzene	3100	U	
1330-20-7	Xylene (Total)	3100	U	
100-42-5	Styrene	3100	410	JB U
75-25-2	Bromoform	3100		
98-82-8	Isopropylbenzene	3100	U	
79-34-5	1,1,2,2-Tetrachloroethane	3100	U	
541-73-1	1,3-Dichlorobenzene	3100	U	
106-46-7	1,4-Dichlorobenzene	3100	U	
95-50-1	1,2-Dichlorobenzene	1500	J	
96-12-8	1,2-Dibromo-3-chloropropane	3100	U	
120-82-1	1,2,4-Trichlorobenzene	3100	U	

Di-2900
JMS
8/23/03

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E2DN1DL

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-02DL

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9550

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 9

Date Analyzed: 09/03/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 50.0 (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

E2DN2

Lab Code: CEIMIC Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-03

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9506

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 15

Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0 ~ 2.0 *ach q.v.*

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 50.0 (uL)

CAS NO. COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

75-71-8	Dichlorodifluoromethane	3100	U
74-87-3	Chloromethane	3100	U
75-01-4	Vinyl Chloride	3100	U
74-83-9	Bromomethane	3100	U
75-00-3	Chloroethane	3100	U
75-69-4	Trichlorofluoromethane	3100	U
75-35-4	1,1-Dichloroethene	3100	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	3100	U
67-64-1	Acetone	2900 620	JB-U
75-15-0	Carbon Disulfide	3100	U
79-20-9	Methyl Acetate	3100	U
75-09-2	Methylene Chloride	2900 1300	JB-U
156-60-5	trans-1,2-Dichloroethene	3100	U
1634-04-4	Methyl tert-Butyl Ether	3100	U
75-34-3	1,1-Dichloroethane	3100	U
156-59-2	cis-1,2-Dichloroethene	2300	J
78-93-3	2-Butanone	3100	U
67-66-3	Chloroform	3100	U
71-55-6	1,1,1-Trichloroethane	350	J
110-82-7	Cyclohexane	3100	U
56-23-5	Carbon Tetrachloride	3100	U
71-43-2	Benzene	3100	U
107-06-2	1,2-Dichloroethane	3100	U

*DL=2900 JAS
9/13/03*

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E2DN2

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024

SAS No.: SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-03

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9506

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 15

Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 50.0 (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	25.60	21000	J
2.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E2DN2DL

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-03DL

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9551

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 15

Date Analyzed: 09/03/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 5.0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	31000	U
75-71-8	Dichlorodifluoromethane	31000	U
74-87-3	Chloromethane	31000	U
75-01-4	Vinyl Chloride	31000	U
74-83-9	Bromomethane	31000	U
75-00-3	Chloroethane	31000	U
75-69-4	Trichlorofluoromethane	31000	U
75-35-4	1,1-Dichloroethene	31000	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	31000	U
67-64-1	Acetone	31000	4200 DJB N
75-15-0	Carbon Disulfide	31000	U
79-20-9	Methyl Acetate	31000	U
75-09-2	Methylene Chloride	35000	DB-1000
156-60-5	trans-1,2-Dichloroethene	31000	U
1634-04-4	Methyl tert-Butyl Ether	31000	U
75-34-3	1,1-Dichloroethane	31000	U
156-59-2	cis-1,2-Dichloroethene	31000	U
78-93-3	2-Butanone	31000	U
67-66-3	Chloroform	31000	U
71-55-6	1,1,1-Trichloroethane	31000	U
110-82-7	Cyclohexane	31000	U
56-23-5	Carbon Tetrachloride	31000	U
71-43-2	Benzene	31000	U
107-06-2	1,2-Dichloroethane	31000	U

DL-29000 OMS
11/27/03

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

E2DN2DL

Lab Code: CEIMIC Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-03DL

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9551

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 15

Date Analyzed: 09/03/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 5.0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

79-01-6	Trichloroethene	390000	DB
108-87-2	Methylcyclohexane	31000	U
78-87-5	1,2-Dichloropropane	31000	U
75-27-4	Bromodichloromethane	31000	U
10061-01-5	cis-1,3-Dichloropropene	31000	U
108-10-1	4-Methyl-2-Pentanone	31000	U
108-88-3	Toluene	31000	U
10061-02-6	trans-1,3-Dichloropropene	31000	U
79-00-5	1,1,2-Trichloroethane	31000	U
127-18-4	Tetrachloroethene	31000	DJB u
591-78-6	2-Hexanone	31000	U
124-48-1	Dibromochloromethane	31000	U
106-93-4	1,2-Dibromoethane	31000	U
108-90-7	Chlorobenzene	31000	U
100-41-4	Ethylbenzene	31000	U
1330-20-7	Xylene (Total)	31000	U
100-42-5	Styrene	31000	U
75-25-2	Bromoform	31000	U
98-82-8	Isopropylbenzene	31000	U
79-34-5	1,1,2,2-Tetrachloroethane	31000	U
541-73-1	1,3-Dichlorobenzene	31000	U
106-46-7	1,4-Dichlorobenzene	31000	U
95-50-1	1,2-Dichlorobenzene	31000	U
96-12-8	1,2-Dibromo-3-chloroproppane	31000	U
120-82-1	1,2,4-Trichlorobenzene	31000	U

DR = 1,000
Qd
d/m3

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E2DN2DL

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024 SAS No.: SDG No.: E2DN0

Matrix: (soil/water) SOIL Lab Sample ID: 031136-03DL

Sample wt/vol: 4.0 (g/mL) G Lab File ID: P9551

Level: (low/med) MED Date Received: 08/22/03

% Moisture: not dec. 15 Date Analyzed: 09/03/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 5.0 (uL)

Number TICs found: 0 CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

E2DN3

Lab Code: CEIMIC Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-04

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9507

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 14

Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 50.0 (uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

75-71-8	Dichlorodifluoromethane	3000	U
74-87-3	Chloromethane	3000	U
75-01-4	Vinyl Chloride	3000	U
74-83-9	Bromomethane	3000	U
75-00-3	Chloroethane	3000	U
75-69-4	Trichlorofluoromethane	3000	U
75-35-4	1,1-Dichloroethene	3000	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	3000	U
67-64-1	Acetone	3000	U
75-15-0	Carbon Disulfide	3000	U
79-20-9	Methyl Acetate	3000	U
75-09-2	Methylene Chloride	2900 1300	JB US
156-60-5	trans-1,2-Dichloroethene	300	J
1634-04-4	Methyl tert-Butyl Ether	3000	U
75-34-3	1,1-Dichloroethane	3000	U
156-59-2	cis-1,2-Dichloroethene	35000	
78-93-3	2-Butanone	3000	U
67-66-3	Chloroform	3000	U
71-55-6	1,1,1-Trichloroethane	3000	U
110-82-7	Cyclohexane	3000	U
56-23-5	Carbon Tetrachloride	3000	U
71-43-2	Benzene	3000	U
107-06-2	1,2-Dichloroethane	3000	U

DL = 2900
 JWS
 9/23/03

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E2DN3

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-04

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9507

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 14

Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 50.0 (uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

79-01-6	Trichloroethene	450000	E
108-87-2	Methylcyclohexane	3000	U
78-87-5	1,2-Dichloropropane	3000	U
75-27-4	Bromodichloromethane	3000	U
10061-01-5	cis-1,3-Dichloropropene	3000	U
108-10-1	4-Methyl-2-Pentanone	3000	U
108-88-3	Toluene	390	J
10061-02-6	trans-1,3-Dichloropropene	3000	U
79-00-5	1,1,2-Trichloroethane	3000	U
127-18-4	Tetrachloroethene	3200	
591-78-6	2-Hexanone	3000	U
124-48-1	Dibromochloromethane	3000	U
106-93-4	1,2-Dibromoethane	3000	U
108-90-7	Chlorobenzene	3000	U
100-41-4	Ethylbenzene	320	J
1330-20-7	Xylene (Total)	3000	U
100-42-5	Styrene	300	440
75-25-2	Bromoform	3000	U
98-82-8	Isopropylbenzene	3000	U
79-34-5	1,1,2,2-Tetrachloroethane	3000	U
541-73-1	1,3-Dichlorobenzene	3000	U
106-46-7	1,4-Dichlorobenzene	3000	U
95-50-1	1,2-Dichlorobenzene	3700	
96-12-8	1,2-Dibromo-3-chloropropane	3000	U
120-82-1	1,2,4-Trichlorobenzene	3000	U

DV-2 ^{dov}
QWS
8/23/03

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E2DN3

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024 SAS No.: SDG No.: E2DN0

Matrix: (soil/water) SOIL Lab Sample ID: 031136-04

Sample wt/vol: 4.0 (g/mL) G Lab File ID: P9507

Level: (low/med) MED Date Received: 08/22/03

% Moisture: not dec. 14 Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 50.0 (uL)

Number TICs found: 3 CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 107-39-1	1-PENTENE, 2,4,4-TRIMETHYL-	10.90	4000	NJ
2.	UNKNOWN	18.16	3500	J
3.	C4-BENZENE ISOMER	20.73	2200	J
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

E2DN3DL

Lab Code: CEIMIC

Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-04DL

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9567

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 14

Date Analyzed: 09/04/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 1.0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND			
75-71-8	Dichlorodifluoromethane		150000	U
74-87-3	Chloromethane		150000	U
75-01-4	Vinyl Chloride		150000	U
74-83-9	Bromomethane		150000	U
75-00-3	Chloroethane		150000	U
75-69-4	Trichlorofluoromethane		150000	U
75-35-4	1,1-Dichloroethene		150000	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		150000	U
67-64-1	Acetone	150000	40000	DJB u
75-15-0	Carbon Disulfide		150000	U
79-20-9	Methyl Acetate		150000	U
75-09-2	Methylene Chloride	150000	140000	DJB u
156-60-5	trans-1,2-Dichloroethene		150000	U
1634-04-4	Methyl tert-Butyl Ether		150000	U
75-34-3	1,1-Dichloroethane		150000	U
156-59-2	cis-1,2-Dichloroethene		27000	DJ
78-93-3	2-Butanone		150000	U
67-66-3	Chloroform		150000	U
71-55-6	1,1,1-Trichloroethane		150000	U
110-82-7	Cyclohexane		150000	U
56-23-5	Carbon Tetrachloride		150000	U
71-43-2	Benzene		150000	U
107-06-2	1,2-Dichloroethane		150000	U

9-24 QCX

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

E2DN3DL

Lab Code: CEIMIC Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-04DL

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9567

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 14

Date Analyzed: 09/04/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 1.0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	1100000	D
79-01-6	Trichloroethene	150000	U
108-87-2	Methylcyclohexane	150000	U
78-87-5	1,2-Dichloropropane	150000	U
75-27-4	Bromodichloromethane	150000	U
10061-01-5	cis-1,3-Dichloropropene	150000	U
108-10-1	4-Methyl-2-Pentanone	150000	U
108-88-3	Toluene	150000	U
10061-02-6	trans-1,3-Dichloropropene	150000	U
79-00-5	1,1,2-Trichloroethane	150000	U
127-18-4	Tetrachloroethene	150000	U
591-78-6	2-Hexanone	150000	U
124-48-1	Dibromochloromethane	150000	U
106-93-4	1,2-Dibromoethane	150000	U
108-90-7	Chlorobenzene	150000	U
100-41-4	Ethylbenzene	150000	U
1330-20-7	Xylene (Total)	150000	U
100-42-5	Styrene	150000	U
75-25-2	Bromoform	150000	U
98-82-8	Isopropylbenzene	150000	U
79-34-5	1,1,2,2-Tetrachloroethane	150000	U
541-73-1	1,3-Dichlorobenzene	150000	U
106-46-7	1,4-Dichlorobenzene	150000	U
95-50-1	1,2-Dichlorobenzene	150000	U
96-12-8	1,2-Dibromo-3-chloropropane	150000	U
120-82-1	1,2,4-Trichlorobenzene	150000	U

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E2DN3DL

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC

Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-04DL

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9567

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 14

Date Analyzed: 09/04/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 1.0 (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.79	110000	JD
2.				
3.				
4.				
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6.				
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9.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E2DN4

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024

SAS No.: SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-05

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9508

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 14

Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 100.0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	1500	U
75-71-8	Dichlorodifluoromethane	1500	U
74-87-3	Chloromethane	1500	U
75-01-4	Vinyl Chloride	1500	U
74-83-9	Bromomethane	1500	U
75-00-3	Chloroethane	1500	U
75-69-4	Trichlorofluoromethane	1500	U
75-35-4	1,1-Dichloroethene	1500	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1500	U
67-64-1	Acetone	1500	330 JB W
75-15-0	Carbon Disulfide	1500	U
79-20-9	Methyl Acetate	1500	U
75-09-2	Methylene Chloride	1500	670 JB W
156-60-5	trans-1,2-Dichloroethene	1500	U
1634-04-4	Methyl tert-Butyl Ether	1500	U
75-34-3	1,1-Dichloroethane	1500	U
156-59-2	cis-1,2-Dichloroethene	1900	
78-93-3	2-Butanone	1500	U
67-66-3	Chloroform	1500	U
71-55-6	1,1,1-Trichloroethane	1500	U
110-82-7	Cyclohexane	1500	U
56-23-5	Carbon Tetrachloride	1500	U
71-43-2	Benzene	1500	U
107-06-2	1,2-Dichloroethane	1500	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1B

E2DN4

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024 SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-05

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9508

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 14

Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 100.0 (uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

79-01-6	Trichloroethene	36000	E
108-87-2	Methylcyclohexane	210	J
78-87-5	1,2-Dichloropropane	1500	U
75-27-4	Bromodichloromethane	1500	U
10061-01-5	cis-1,3-Dichloropropene	1500	U
108-10-1	4-Methyl-2-Pentanone	1500	U
108-88-3	Toluene	1500	U
10061-02-6	trans-1,3-Dichloropropene	1500	U
79-00-5	1,1,2-Trichloroethane	1500	U
127-18-4	Tetrachloroethene	18000	
591-78-6	2-Hexanone	1500	U
124-48-1	Dibromochloromethane	1500	U
106-93-4	1,2-Dibromoethane	1500	U
108-90-7	Chlorobenzene	1500	U
100-41-4	Ethylbenzene	1500	U
1330-20-7	Xylene (Total)	1500	U
100-42-5	Styrene	1500	U
75-25-2	Bromoform	1500	U
98-82-8	Isopropylbenzene	1500	U
79-34-5	1,1,2,2-Tetrachloroethane	1500	U
541-73-1	1,3-Dichlorobenzene	1500	U
106-46-7	1,4-Dichlorobenzene	1500	U
95-50-1	1,2-Dichlorobenzene	1500	U
96-12-8	1,2-Dibromo-3-chloropropane	1500	U
120-82-1	1,2,4-Trichlorobenzene	1500	U

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E2DN4

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024 SAS No.: SDG No.: E2DN0

Matrix: (soil/water) SOIL Lab Sample ID: 031136-05

Sample wt/vol: 4.0 (g/mL) G Lab File ID: P9508

Level: (low/med) MED Date Received: 08/22/03

% Moisture: not dec. 14 Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100.0 (uL)

Number TICs found: 4 CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	19.65	820	J
2.	UNKNOWN	20.17	800	J
3.	UNKNOWN	20.74	1400	J
4. 493-02-7	NAPHTHALENE, DECAHYDRO-, TRA	21.10	750	NJ
5.				
6.				
7.				
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VOLATILE ORGANICS ANALYSIS DATA SHEET

1A

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

E2DN4DL

Lab Code: CEIMIC Case No.: 32024 SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-05DL

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9553

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 14

Date Analyzed: 09/03/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 50.0 (uL)

CAS NO. COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

75-71-8	Dichlorodifluoromethane	3000	U
74-87-3	Chloromethane	3000	U
75-01-4	Vinyl Chloride	3000	U
74-83-9	Bromomethane	3000	U
75-00-3	Chloroethane	3000	U
75-69-4	Trichlorofluoromethane	3000	U
75-35-4	1,1-Dichloroethene	3000	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	3000	U
67-64-1	Acetone	2900 1100	DJB WJ
75-15-0	Carbon Disulfide	3000	U
79-20-9	Methyl Acetate	3000	U
75-09-2	Methylene Chloride	2900 1800	DJB WJ
156-60-5	trans-1,2-Dichloroethene	3000	U
1634-04-4	Methyl tert-Butyl Ether	3000	U
75-34-3	1,1-Dichloroethane	3000	U
156-59-2	cis-1,2-Dichloroethene	3000 1700	DJB WJ
78-93-3	2-Butanone	3000	U
67-66-3	Chloroform	3000	U
71-55-6	1,1,1-Trichloroethane	3000	U
110-82-7	Cyclohexane	3000	U
56-23-5	Carbon Tetrachloride	3000	U
71-43-2	Benzene	3000	U
107-06-2	1,2-Dichloroethane	3000	U

DL = 2900
DJB
9/23/03

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E2DN4DL

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024

SAS No.: SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-05DL

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9553

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 14

Date Analyzed: 09/03/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 50.0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	34000	DB
79-01-6	Trichloroethene	3000	U
108-87-2	Methylcyclohexane	3000	U
78-87-5	1,2-Dichloropropane	3000	U
75-27-4	Bromodichloromethane	3000	U
10061-01-5	cis-1,3-Dichloropropene	3000	U
108-10-1	4-Methyl-2-Pentanone	3000	U
108-88-3	Toluene	3000	U
10061-02-6	trans-1,3-Dichloropropene	3000	U
79-00-5	1,1,2-Trichloroethane	3000	U
127-18-4	Tetrachloroethene	18000	DB
591-78-6	2-Hexanone	3000	U
124-48-1	Dibromochloromethane	3000	U
106-93-4	1,2-Dibromoethane	3000	U
108-90-7	Chlorobenzene	3000	U
100-41-4	Ethylbenzene	3000	U
1330-20-7	Xylene (Total)	3000	U
100-42-5	Styrene	3000	U
75-25-2	Bromoform	3000	U
98-82-8	Isopropylbenzene	3000	U
79-34-5	1,1,2,2-Tetrachloroethane	3000	U
541-73-1	1,3-Dichlorobenzene	3000	U
106-46-7	1,4-Dichlorobenzene	3000	U
95-50-1	1,2-Dichlorobenzene	3000	U
96-12-8	1,2-Dibromo-3-chloropropane	3000	U
120-82-1	1,2,4-Trichlorobenzene	3000	U

DL = 2900 *μ*g
8/27/03

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E2DN4DL

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC

Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-05DL

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9553

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 14

Date Analyzed: 09/03/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 50.0 (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
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VOLATILE ORGANICS ANALYSIS DATA SHEET

1A

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

E2DN5

Lab Code: CEIMIC Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-06

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9509

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 13

Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 100.0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

75-71-8	Dichlorodifluoromethane	1500	U
74-87-3	Chloromethane	1500	U
75-01-4	Vinyl Chloride	1500	U
74-83-9	Bromomethane	1500	U
75-00-3	Chloroethane	1500	U
75-69-4	Trichlorofluoromethane	1500	U
75-35-4	1,1-Dichloroethene	1500	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1500	U
67-64-1	Acetone	1400 340	JB u
75-15-0	Carbon Disulfide	1500	U
79-20-9	Methyl Acetate	1500	U
75-09-2	Methylene Chloride	1400 760	JB u
156-60-5	trans-1,2-Dichloroethene	1500	U
1634-04-4	Methyl tert-Butyl Ether	1500	U
75-34-3	1,1-Dichloroethane	1500	U
156-59-2	cis-1,2-Dichloroethene	8700	
78-93-3	2-Butanone	1500	U
67-66-3	Chloroform	1500	U
71-55-6	1,1,1-Trichloroethane	1500	U
110-82-7	Cyclohexane	1500	U
56-23-5	Carbon Tetrachloride	1500	U
71-43-2	Benzene	1500	U
107-06-2	1,2-Dichloroethane	1500	U

DL = 1400
DMS
9/23/03

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

E2DN5

Lab Code: CEIMIC Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-06

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9509

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 13

Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 100.0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		
79-01-6	Trichloroethene	150000	E
108-87-2	Methylcyclohexane	1500	U
78-87-5	1,2-Dichloropropane	1500	U
75-27-4	Bromodichloromethane	1500	U
10061-01-5	cis-1,3-Dichloropropene	1500	U
108-10-1	4-Methyl-2-Pentanone	1500	U
108-88-3	Toluene	180	J
10061-02-6	trans-1,3-Dichloropropene	1500	U
79-00-5	1,1,2-Trichloroethane	1500	U
127-18-4	Tetrachloroethene	27000	
591-78-6	2-Hexanone	1500	U
124-48-1	Dibromochloromethane	1500	U
106-93-4	1,2-Dibromoethane	1500	U
108-90-7	Chlorobenzene	1500	U
100-41-4	Ethylbenzene	1500	U
1330-20-7	Xylene (Total)	1500	U
100-42-5	Styrene	1500	190
75-25-2	Bromoform	1500	U
98-82-8	Isopropylbenzene	1500	U
79-34-5	1,1,2,2-Tetrachloroethane	1500	U
541-73-1	1,3-Dichlorobenzene	1500	U
106-46-7	1,4-Dichlorobenzene	1500	U
95-50-1	1,2-Dichlorobenzene	1500	U
96-12-8	1,2-Dibromo-3-chloropropane	1500	U
120-82-1	1,2,4-Trichlorobenzene	1500	U

DL-1400
DMS
9/23/03

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E2DN5

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024 SAS No.: SDG No.: E2DN0

Matrix: (soil/water) SOIL Lab Sample ID: 031136-06

Sample wt/vol: 4.0 (g/mL) G Lab File ID: P9509

Level: (low/med) MED Date Received: 08/22/03

% Moisture: not dec. 13 Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100.0 (uL)

CONCENTRATION UNITS:
Number TICs found: 2 (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	20.73	770	J
2.	UNKNOWN	25.87	810	J
3.				
4.				
5.				
6.				
7.				
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9.				
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29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

E2DN5DL

Lab Code: CEIMIC Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-06DL

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9554

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 13

Date Analyzed: 09/03/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 10.0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		
75-71-8	Dichlorodifluoromethane	15000	U
74-87-3	Chloromethane	15000	U
75-01-4	Vinyl Chloride	15000	U
74-83-9	Bromomethane	15000	U
75-00-3	Chloroethane	15000	U
75-69-4	Trichlorofluoromethane	15000	U
75-35-4	1,1-Dichloroethene	15000	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	15000	U
67-64-1	Acetone	14000 2200	DJB WJ
75-15-0	Carbon Disulfide	15000	U
79-20-9	Methyl Acetate	15000	U
75-09-2	Methylene Chloride	14000 10000	DJB WJ
156-60-5	trans-1,2-Dichloroethene	15000	U
1634-04-4	Methyl tert-Butyl Ether	15000	U
75-34-3	1,1-Dichloroethane	15000	U
156-59-2	cis-1,2-Dichloroethene	15000 8000	DJB WJ
78-93-3	2-Butanone	15000	U
67-66-3	Chloroform	15000	U
71-55-6	1,1,1-Trichloroethane	15000	U
110-82-7	Cyclohexane	15000	U
56-23-5	Carbon Tetrachloride	15000	U
71-43-2	Benzene	15000	U
107-06-2	1,2-Dichloroethane	15000	U

DL = 14000

OLM
4/23/03

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E2DN5DL

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024

SAS No.: SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-06DL

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9554

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 13

Date Analyzed: 09/03/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 10.0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		
79-01-6	Trichloroethene	230000	DB
108-87-2	Methylcyclohexane	15000	U
78-87-5	1,2-Dichloropropane	15000	U
75-27-4	Bromodichloromethane	15000	U
10061-01-5	cis-1,3-Dichloropropene	15000	U
108-10-1	4-Methyl-2-Pentanone	15000	U
108-88-3	Toluene	15000	U
10061-02-6	trans-1,3-Dichloropropene	15000	U
79-00-5	1,1,2-Trichloroethane	15000	U
127-18-4	Tetrachloroethene	26000	DB
591-78-6	2-Hexanone	15000	U
124-48-1	Dibromochloromethane	15000	U
106-93-4	1,2-Dibromoethane	15000	U
108-90-7	Chlorobenzene	15000	U
100-41-4	Ethylbenzene	15000	U
1330-20-7	Xylene (Total)	15000	U
100-42-5	Styrene	15000	U
75-25-2	Bromoform	15000	U
98-82-8	Isopropylbenzene	15000	U
79-34-5	1,1,2,2-Tetrachloroethane	15000	U
541-73-1	1,3-Dichlorobenzene	15000	U
106-46-7	1,4-Dichlorobenzene	15000	U
95-50-1	1,2-Dichlorobenzene	15000	U
96-12-8	1,2-Dibromo-3-chloropropane	15000	U
120-82-1	1,2,4-Trichlorobenzene	15000	U

DL = 14000 28
9/23/03

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E2DN5DL

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024 SAS No.: SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-06DL

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9554

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 13

Date Analyzed: 09/03/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 10.0 (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

E2DN6

Lab Code: CEIMIC Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-07

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9510

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 9

Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 100.0 (uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

75-71-8	Dichlorodifluoromethane	1400	U
74-87-3	Chloromethane	1400	U
75-01-4	Vinyl Chloride	1400	U
74-83-9	Bromomethane	1400	U
75-00-3	Chloroethane	1400	U
75-69-4	Trichlorofluoromethane	1400	U
75-35-4	1,1-Dichloroethene	1400	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1400	U
67-64-1	Acetone	1400	270 JB u
75-15-0	Carbon Disulfide	1400	U
79-20-9	Methyl Acetate	1400	U
75-09-2	Methylene Chloride	1400	620 JB u
156-60-5	trans-1,2-Dichloroethene	1400	U
1634-04-4	Methyl tert-Butyl Ether	1400	U
75-34-3	1,1-Dichloroethane	1400	U
156-59-2	cis-1,2-Dichloroethene	770	J
78-93-3	2-Butanone	1400	U
67-66-3	Chloroform	1400	U
71-55-6	1,1,1-Trichloroethane	1400	U
110-82-7	Cyclohexane	1400	U
56-23-5	Carbon Tetrachloride	1400	U
71-43-2	Benzene	1400	U
107-06-2	1,2-Dichloroethane	1400	U

DMS
4/23/03

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

E2DN6

Lab Code: CEIMIC

Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-07

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9510

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 9

Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 100.0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	120000	E
79-01-6	Trichloroethene	1400	U
108-87-2	Methylcyclohexane	1400	U
78-87-5	1,2-Dichloropropane	1400	U
75-27-4	Bromodichloromethane	1400	U
10061-01-5	cis-1,3-Dichloropropene	1400	U
108-10-1	4-Methyl-2-Pentanone	1400	U
108-88-3	Toluene	1400	U
10061-02-6	trans-1,3-Dichloropropene	1400	U
79-00-5	1,1,2-Trichloroethane	1400	U
127-18-4	Tetrachloroethene	2200	
591-78-6	2-Hexanone	1400	U
124-48-1	Dibromochloromethane	1400	U
106-93-4	1,2-Dibromoethane	1400	U
108-90-7	Chlorobenzene	1400	U
100-41-4	Ethylbenzene	1400	U
1330-20-7	Xylene (Total)	1400	U
100-42-5	Styrene	1400	U
75-25-2	Bromoform	1400	U
98-82-8	Isopropylbenzene	1400	U
79-34-5	1,1,2,2-Tetrachloroethane	1400	U
541-73-1	1,3-Dichlorobenzene	1400	U
106-46-7	1,4-Dichlorobenzene	1400	U
95-50-1	1,2-Dichlorobenzene	700	J
96-12-8	1,2-Dibromo-3-chloropropane	1400	U
120-82-1	1,2,4-Trichlorobenzene	1400	U

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

E2DN6

Lab Code: CEIMIC Case No.: 32024 SAS No.: SDG No.: E2DN0

Matrix: (soil/water) SOIL Lab Sample ID: 031136-07

Sample wt/vol: 4.0 (g/mL) G Lab File ID: P9510

Level: (low/med) MED Date Received: 08/22/03

% Moisture: not dec. 9 Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100.0 (uL)

CONCENTRATION UNITS:
Number TICs found: 2 (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	20.73	770	J
2.	UNKNOWN	26.45	15000	J
3.				
4.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

E2DN6DL

Lab Code: CEIMIC Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-07DL

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9555

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 9

Date Analyzed: 09/03/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 10.0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	14000	U
75-71-8	Dichlorodifluoromethane	14000	U
74-87-3	Chloromethane	14000	U
75-01-4	Vinyl Chloride	14000	U
74-83-9	Bromomethane	14000	U
75-00-3	Chloroethane	14000	U
75-69-4	Trichlorofluoromethane	14000	U
75-35-4	1,1-Dichloroethene	14000	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	14000	U
67-64-1	Acetone	14000	U
75-15-0	Carbon Disulfide	14000	U
79-20-9	Methyl Acetate	14000	U
75-09-2	Methylene Chloride	14000	11000 DAB WJ
156-60-5	trans-1,2-Dichloroethene	14000	U
1634-04-4	Methyl tert-Butyl Ether	14000	U
75-34-3	1,1-Dichloroethane	14000	U
156-59-2	cis-1,2-Dichloroethene	14000	U
78-93-3	2-Butanone	14000	U
67-66-3	Chloroform	14000	U
71-55-6	1,1,1-Trichloroethane	14000	U
110-82-7	Cyclohexane	14000	U
56-23-5	Carbon Tetrachloride	14000	U
71-43-2	Benzene	14000	U
107-06-2	1,2-Dichloroethane	14000	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E2DN6DL

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024

SAS No.: SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-07DL

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9555

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 9

Date Analyzed: 09/03/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 10.0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		
79-01-6	Trichloroethene	150000	DB
108-87-2	Methylcyclohexane	14000	U
78-87-5	1,2-Dichloropropane	14000	U
75-27-4	Bromodichloromethane	14000	U
10061-01-5	cis-1,3-Dichloropropene	14000	U
108-10-1	4-Methyl-2-Pentanone	14000	U
108-88-3	Toluene	14000	U
10061-02-6	trans-1,3-Dichloropropene	14000	U
79-00-5	1,1,2-Trichloroethane	14000	U
127-18-4	Tetrachloroethene	14000	DJB U
591-78-6	2-Hexanone	14000	U
124-48-1	Dibromochloromethane	14000	U
106-93-4	1,2-Dibromoethane	14000	U
108-90-7	Chlorobenzene	14000	U
100-41-4	Ethylbenzene	14000	U
1330-20-7	Xylene (Total)	14000	U
100-42-5	Styrene	14000	U
75-25-2	Bromoform	14000	U
98-82-8	Isopropylbenzene	14000	U
79-34-5	1,1,2,2-Tetrachloroethane	14000	U
541-73-1	1,3-Dichlorobenzene	14000	U
106-46-7	1,4-Dichlorobenzene	14000	U
95-50-1	1,2-Dichlorobenzene	14000	U
96-12-8	1,2-Dibromo-3-chloropropane	14000	U
120-82-1	1,2,4-Trichlorobenzene	14000	U

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E2DN6DL

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC

Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: 031136-07DL

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9555

Level: (low/med) MED

Date Received: 08/22/03

% Moisture: not dec. 9

Date Analyzed: 09/03/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 10.0 (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKPH

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: V160830M-B2

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9499

Level: (low/med) MED

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 100.0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

75-71-8	Dichlorodifluoromethane	1300	U
74-87-3	Chloromethane	300	J
75-01-4	Vinyl Chloride	1300	U
74-83-9	Bromomethane	1300	U
75-00-3	Chloroethane	1300	U
75-69-4	Trichlorofluoromethane	1300	U
75-35-4	1,1-Dichloroethene	1300	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1300	U
67-64-1	Acetone	240	J
75-15-0	Carbon Disulfide	1300	U
79-20-9	Methyl Acetate	1300	U
75-09-2	Methylene Chloride	160	J
156-60-5	trans-1,2-Dichloroethene	1300	U
1634-04-4	Methyl tert-Butyl Ether	1300	U
75-34-3	1,1-Dichloroethane	1300	U
156-59-2	cis-1,2-Dichloroethene	1300	U
78-93-3	2-Butanone	1300	U
67-66-3	Chloroform	1300	U
71-55-6	1,1,1-Trichloroethane	1300	U
110-82-7	Cyclohexane	1300	U
56-23-5	Carbon Tetrachloride	1300	U
71-43-2	Benzene	1300	U
107-06-2	1,2-Dichloroethane	1300	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

VBLKPH

Lab Code: CEIMIC Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: V160830M-B2

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9499

Level: (low/med) MED

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 100.0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		
79-01-6	Trichloroethene	1300	U
108-87-2	Methylcyclohexane	1300	U
78-87-5	1,2-Dichloropropane	1300	U
75-27-4	Bromodichloromethane	1300	U
10061-01-5	cis-1,3-Dichloropropene	1300	U
108-10-1	4-Methyl-2-Pentanone	1300	U
108-88-3	Toluene	1300	U
10061-02-6	trans-1,3-Dichloropropene	1300	U
79-00-5	1,1,2-Trichloroethane	1300	U
127-18-4	Tetrachloroethene	1300	U
591-78-6	2-Hexanone	1300	U
124-48-1	Dibromochloromethane	1300	U
106-93-4	1,2-Dibromoethane	1300	U
108-90-7	Chlorobenzene	1300	U
100-41-4	Ethylbenzene	1300	U
1330-20-7	Xylene (Total)	130	J
100-42-5	Styrene	260	J
75-25-2	Bromoform	1300	U
98-82-8	Isopropylbenzene	1300	U
79-34-5	1,1,2,2-Tetrachloroethane	1300	U
541-73-1	1,3-Dichlorobenzene	1300	U
106-46-7	1,4-Dichlorobenzene	1300	U
95-50-1	1,2-Dichlorobenzene	1300	U
96-12-8	1,2-Dibromo-3-chloropropane	1300	U
120-82-1	1,2,4-Trichlorobenzene	310	J

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKPH

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024 SAS No.: SDG No.: E2DN0

Matrix: (soil/water) SOIL Lab Sample ID: V160830M-B2

Sample wt/vol: 4.0 (g/mL) G Lab File ID: P9499

Level: (low/med) MED Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 08/30/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100.0 (uL)

Number TICs found: 0 CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
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VOLATILE ORGANICS ANALYSIS DATA SHEET

1A

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

VBLKPN

Lab Code: CEIMIC Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: V160903M-B1

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9546

Level: (low/med) MED

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 09/03/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 100.0 (uL)

CAS NO. COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

75-71-8	Dichlorodifluoromethane	210	J
74-87-3	Chloromethane	180	J
75-01-4	Vinyl Chloride	220	J
74-83-9	Bromomethane	1300	U
75-00-3	Chloroethane	1300	U
75-69-4	Trichlorofluoromethane	1300	U
75-35-4	1,1-Dichloroethene	140	J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1300	U
67-64-1	Acetone	340	J
75-15-0	Carbon Disulfide	220	J
79-20-9	Methyl Acetate	1300	U
75-09-2	Methylene Chloride	1100	J
156-60-5	trans-1,2-Dichloroethene	180	J
1634-04-4	Methyl tert-Butyl Ether	1300	U
75-34-3	1,1-Dichloroethane	170	J
156-59-2	cis-1,2-Dichloroethene	150	J
78-93-3	2-Butanone	1300	U
67-66-3	Chloroform	150	J
71-55-6	1,1,1-Trichloroethane	190	J
110-82-7	Cyclohexane	230	J
56-23-5	Carbon Tetrachloride	200	J
71-43-2	Benzene	170	J
107-06-2	1,2-Dichloroethane	1300	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

VBLKPN

Lab Code: CEIMIC

Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: V160903M-B1

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9546

Level: (low/med) MED

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 09/03/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 100.0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	190	J
79-01-6	Trichloroethene	190	J
108-87-2	Methylcyclohexane	240	J
78-87-5	1,2-Dichloropropane	1300	U
75-27-4	Bromodichloromethane	1300	U
10061-01-5	cis-1,3-Dichloropropene	1300	U
108-10-1	4-Methyl-2-Pentanone	1300	U
108-88-3	Toluene	160	J
10061-02-6	trans-1,3-Dichloropropene	1300	U
79-00-5	1,1,2-Trichloroethane	1300	U
127-18-4	Tetrachloroethene	190	J
591-78-6	2-Hexanone	1300	U
124-48-1	Dibromochloromethane	1300	U
106-93-4	1,2-Dibromoethane	1300	U
108-90-7	Chlorobenzene	140	J
100-41-4	Ethylbenzene	150	J
1330-20-7	Xylene (Total)	300	J
100-42-5	Styrene	1300	U
75-25-2	Bromoform	1300	U
98-82-8	Isopropylbenzene	140	J
79-34-5	1,1,2,2-Tetrachloroethane	1300	U
541-73-1	1,3-Dichlorobenzene	1300	U
106-46-7	1,4-Dichlorobenzene	1300	U
95-50-1	1,2-Dichlorobenzene	1300	U
96-12-8	1,2-Dibromo-3-chloropropane	1300	U
120-82-1	1,2,4-Trichlorobenzene	1300	U

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKPN

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC

Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: V160903M-B1

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9546

Level: (low/med) MED

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 09/03/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 100.0 (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKPO

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC

Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) WATER

Lab Sample ID: V160904-B1

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: P9565

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 09/04/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO. COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

75-71-8	Dichlorodifluoromethane	10	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl Chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorodifluoromethane	10	U
75-35-4	1,1-Dichloroethene	10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
79-20-9	Methyl Acetate	10	U
75-09-2	Methylene Chloride	2	J
156-60-5	trans-1,2-Dichloroethene	10	U
1634-04-4	Methyl tert-Butyl Ether	10	U
75-34-3	1,1-Dichloroethane	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
78-93-3	2-Butanone	10	U
67-66-3	Chloroform	10	U
71-55-6	1,1,1-Trichloroethane	10	U
110-82-7	Cyclohexane	10	U
56-23-5	Carbon Tetrachloride	10	U
71-43-2	Benzene	10	U
107-06-2	1,2-Dichloroethane	10	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

VBLKPO

Lab Code: CEIMIC Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) WATER

Lab Sample ID: V160904-B1

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: P9565

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 09/04/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO. COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

79-01-6	Trichloroethene	10	U
108-87-2	Methylcyclohexane	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
127-18-4	Tetrachloroethene	10	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	10	U
106-93-4	1,2-Dibromoethane	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	Xylene (Total)	10	U
100-42-5	Styrene	10	U
75-25-2	Bromoform	10	U
98-82-8	Isopropylbenzene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKPO

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024

SAS No.:

SDG No.: E2DN0

Matrix: (soil/water) WATER

Lab Sample ID: V160904-B1

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: P9565

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 09/04/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKPP

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024

SAS No.: SDG No.: E2DN0

Matrix: (soil/water) SOIL

Lab Sample ID: V160904M-B1

Sample wt/vol: 4.0 (g/mL) G

Lab File ID: P9566

Level: (low/med) MED

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 09/04/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL)

Soil Aliquot Volume: 100.0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		
75-71-8	Dichlorodifluoromethane	1300	U
74-87-3	Chloromethane	1300	U
75-01-4	Vinyl Chloride	1300	U
74-83-9	Bromomethane	1300	U
75-00-3	Chloroethane	1300	U
75-69-4	Trichlorodifluoromethane	1300	U
75-35-4	1,1-Dichloroethene	1300	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1300	U
67-64-1	Acetone	390	J
75-15-0	Carbon Disulfide	1300	U
79-20-9	Methyl Acetate	1300	U
75-09-2	Methylene Chloride	830	J
156-60-5	trans-1,2-Dichloroethene	1300	U
1634-04-4	Methyl tert-Butyl Ether	1300	U
75-34-3	1,1-Dichloroethane	1300	U
156-59-2	cis-1,2-Dichloroethene	1300	U
78-93-3	2-Butanone	1300	U
67-66-3	Chloroform	1300	U
71-55-6	1,1,1-Trichloroethane	1300	U
110-82-7	Cyclohexane	1300	U
56-23-5	Carbon Tetrachloride	1300	U
71-43-2	Benzene	1300	U
107-06-2	1,2-Dichloroethane	1300	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

VBLKPP

Lab Code: CEIMIC Case No.: 32024 SAS No.: SDG No.: E2DN0

Matrix: (soil/water) SOIL Lab Sample ID: V160904M-B1

Sample wt/vol: 4.0 (g/mL) G Lab File ID: P9566

Level: (low/med) MED Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 09/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100.0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		
79-01-6	Trichloroethene	1300	U
108-87-2	Methylcyclohexane	1300	U
78-87-5	1,2-Dichloropropane	1300	U
75-27-4	Bromodichloromethane	1300	U
10061-01-5	cis-1,3-Dichloropropene	1300	U
108-10-1	4-Methyl-2-Pentanone	1300	U
108-88-3	Toluene	1300	U
10061-02-6	trans-1,3-Dichloropropene	1300	U
79-00-5	1,1,2-Trichloroethane	1300	U
127-18-4	Tetrachloroethene	1300	U
591-78-6	2-Hexanone	1300	U
124-48-1	Dibromochloromethane	1300	U
106-93-4	1,2-Dibromoethane	1300	U
108-90-7	Chlorobenzene	1300	U
100-41-4	Ethylbenzene	1300	U
1330-20-7	Xylene (Total)	1300	U
100-42-5	Styrene	1300	U
75-25-2	Bromoform	1300	U
98-82-8	Isopropylbenzene	1300	U
79-34-5	1,1,2,2-Tetrachloroethane	1300	U
541-73-1	1,3-Dichlorobenzene	1300	U
106-46-7	1,4-Dichlorobenzene	1300	U
95-50-1	1,2-Dichlorobenzene	1300	U
96-12-8	1,2-Dibromo-3-chloropropane	1300	U
120-82-1	1,2,4-Trichlorobenzene	1300	U

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKPP

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024 SAS No.: SDG No.: E2DN0

Matrix: (soil/water) SOIL Lab Sample ID: V160904M-B1

Sample wt/vol: 4.0 (g/mL) G Lab File ID: P9566

Level: (low/med) MED Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 09/04/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100.0 (uL)

Number TICs found: 0 CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VHBLK01

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024

SAS No.: SDG No.: E2DN0

Matrix: (soil/water) WATER

Lab Sample ID: 031136-21

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: P9568

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 09/04/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	10	U
75-71-8	Dichlorodifluoromethane	10	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl Chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-35-4	1,1-Dichloroethene	10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	10	U
67-64-1	Acetone	2	J
75-15-0	Carbon Disulfide	10	U
79-20-9	Methyl Acetate	10	U
75-09-2	Methylene Chloride	14	B μ
156-60-5	trans-1,2-Dichloroethene	10	U
1634-04-4	Methyl tert-Butyl Ether	10	U
75-34-3	1,1-Dichloroethane	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
78-93-3	2-Butanone	10	U
67-66-3	Chloroform	10	U
71-55-6	1,1,1-Trichloroethane	10	U
110-82-7	Cyclohexane	10	U
56-23-5	Carbon Tetrachloride	10	U
71-43-2	Benzene	10	U
107-06-2	1,2-Dichloroethane	10	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

1B

EPA SAMPLE NO.

VHBLK01

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024

SAS No.: SDG No.: E2DN0

Matrix: (soil/water) WATER

Lab Sample ID: 031136-21

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: P9568

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 09/04/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

79-01-6	Trichloroethene	4	J
108-87-2	Methylcyclohexane	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
127-18-4	Tetrachloroethene	10	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	10	U
106-93-4	1,2-Dibromoethane	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	Xylene (Total)	10	U
100-42-5	Styrene	10	U
75-25-2	Bromoform	10	U
98-82-8	Isopropylbenzene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VHBLK01

Lab Name: CEIMIC CORP

Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 32024

SAS No.: SDG No.: E2DN0

Matrix: (soil/water) WATER

Lab Sample ID: 031136-21

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: P9568

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 09/04/03

GC Column: RTX-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION V

ESD Central Regional Laboratory

Data Tracking Form for Contract Samples

Sample Delivery Group: E2DNO CERCLIS No: TBDCase No: 32024 Site Name/Location: FANSTEEL Vulcan MaterialsContractor of EPA Lab: CEMIC Data User: TEKRA TechNo. of Samples: 7 Date Sampled or Date Received: 9-5-03Have Chain-of-Custody records been received? Yes / No Have traffic reports or packing lists been received? Yes No

If no, are traffic report or packing list numbers written on the Chain-of-Custody Record?

Yes No If no, which traffic report or packing list numbers are missing?
 Are basic data forms in? Yes / No No of samples claimed: 7 No. of samples received: 7Received by: Eva M. Dixon/ESDT Date: 9-5-03Received by LSSS: Eva M. Dixon/ESDT Date: 9-5-03Review started: 9/17/03 Reviewer Signature: DJGTotal time spent on review: 9 Date review completed: 9/22/03Copied by: Eva M. Dixon/ESDT Date: 9-24-03Mailed to user by: Eva M. Dixon/ESDT Date: 9-24-03**DATA USER:**

Please fill in the blanks below and return this form to:

Sylvia Griffin, Data Mgmt. Coordinator, Region V, ML-10C

Data received by: _____ Date: _____

Data review received by: _____ Date: _____

Inorganic Data Complete

[] Suitable for Intended Purpose [] ✓ if OK

Organic Data Complete

[] Suitable for Intended Purpose [] ✓ if OK

Dioxin data Complete

[] Suitable for Intended Purpose [] ✓ if OK

SAS Data Complete

[] Suitable for Intended Purpose [] ✓ if OK

PROBLEMS: Please indicate reasons why data are not suitable for your uses.

Received by Data Mgmt. Coordinator for Files. Date: _____

SEP 17 2003

Page 1 of 8

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 9/16/03

SUBJECT: Review of Data
Received for review on 8/27/03

FROM: Stephen L. Ostrodka, Chief (SMF-4J)
Superfund Field Services Section

TO: Data User: Tetra Tech

We have reviewed the data by CADRE for the following case:

SITE NAME: Fansteel Vulcan Materials (IL)

CASE NUMBER: 32024 SDG NUMBER: ME2DN0

Number and Type of Samples: 7 soils

Sample Numbers: ME2DN0-6

Laboratory: Bonner Hrs. for Review: 11

Following are our findings: +2

CC: Cecilia Moore
Region 5 TOPO
Mail Code: SMF-4J

Case: 32024
Site: Fansteel Vulcan Materials

SDG: ME2DN0
Laboratory: Bonner

Page 2 of 8

Below is a summary of the out-of-control audits and the possible effects on the data for this case:

Seven (7) soil samples, numbered ME2DN0-6, were collected on August 21, 2003. The lab received the samples on August 22, 2003 in good condition. All samples were analyzed for metals. All samples were analyzed using the CLP SOW ILM05.2 analysis procedures.

Mercury analysis was performed using a Cold Vapor AA Technique. The remaining inorganic analyses were performed using an Inductively Coupled Plasma-Atomic Emission Spectrometric (ICP-AES) procedure.

Errors were found and corrected on Forms I, VA and VI by this reviewer.

Reviewed by: Stephen Connet
Date: 9/16/03

1. HOLDING TIME:

DC-10: The following inorganic soil samples were reviewed for holding time violations using criteria developed for water samples.

ME2DN0, ME2DN1, ME2DN2, ME2DN3, ME2DN4, ME2DN5, ME2DN6

No defects were found.

2. CALIBRATIONS:

No defects were found for the calibration or the CRQL standard.

3. BLANKS:

The following inorganic samples are associated with an ICB/CCB concentration which is greater than the instrument detection limit (IDL) but less than or equal to the CRQL. The sample result is also less than or equal to the CRQL.

Hits are qualified "U". The sample result is raised to the CRQL.

Barium

ME2DN3, ME2DN6

Beryllium

ME2DN0, ME2DN1, ME2DN2, ME2DN3, ME2DN5, ME2DN6

Cadmium

ME2DN3, ME2DN6

Selenium

ME2DN0, ME2DN1, ME2DN4

Thallium

ME2DN0, ME2DN1, ME2DN2, ME2DN3, ME2DN4, ME2DN5, ME2DN6

The following inorganic samples are associated with a negative blank concentration whose absolute value is greater than the instrument detection limit (IDL). The sample result is also greater than the IDL but less than or equal to the CRQL.

Hits are qualified "U". The sample result is raised to the CRQL.

Reviewed by: Stephen Connet
Date: 9/16/03

Barium
ME2DN3, ME2DN6

Cobalt
ME2DN6

The following inorganic samples are associated with a blank concentration which is greater than the instrument detection limit (IDL). Five times the blank concentration is greater than the CRQL and the sample concentration is greater than the CRQL.

These hits are qualified "J+".

Arsenic
ME2DN6

4. MATRIX SPIKE/MATRIX SPIKE DUPLICATE AND LAB CONTROL SAMPLE:

The following inorganic samples are associated with a matrix spike recovery which is extremely low indicating that sample results may be biased low. The required post spike was performed and results were greater than or equal to 75%.

Hits are qualified "J" and non-detects are qualified "UJ".

Antimony
ME2DN0, ME2DN1, ME2DN2, ME2DN3, ME2DN4, ME2DN5, ME2DN6

The following inorganic samples are associated with a matrix spike recovery which is low indicating that sample results may be biased low. The required post spike was performed and results were greater than or equal to 75%.

Hits are qualified "J" and non-detects are qualified "UJ".

Cadmium
ME2DN0, ME2DN1, ME2DN2, ME2DN3, ME2DN4, ME2DN5, ME2DN6

Nickel
ME2DN0, ME2DN1, ME2DN2, ME2DN3, ME2DN4, ME2DN5, ME2DN6

Selenium
ME2DN0, ME2DN1, ME2DN2, ME2DN3, ME2DN4, ME2DN5, ME2DN6

Thallium
ME2DN0, ME2DN1, ME2DN2, ME2DN3, ME2DN4, ME2DN5, ME2DN6

Reviewed by: Stephen Connet
Date: 9/16/03

No defects were found for the laboratory control sample.

5. LABORATORY AND FIELD DUPLICATE:

DC-3 The following inorganic samples are associated with duplicate results which did not meet relative percent difference (RPD) primary criteria. Hits are qualified "J" and non-detects are qualified "UJ".

Copper

ME2DN0, ME2DN1, ME2DN2, ME2DN3, ME2DN4, ME2DN5, ME2DN6

Lead

ME2DN0, ME2DN1, ME2DN2, ME2DN3, ME2DN4, ME2DN5, ME2DN6

Zinc

ME2DN0, ME2DN1, ME2DN2, ME2DN3, ME2DN4, ME2DN5, ME2DN6

The following inorganic samples are associated with field duplicate results which did not meet relative percent difference (RPD) criteria. ME2DN2 and ME2DN6 are field duplicates.

Hits are qualified "J" and non-detects are qualified "UJ".

Aluminum

ME2DN0, ME2DN1, ME2DN2, ME2DN3, ME2DN4, ME2DN5, ME2DN6

Calcium

ME2DN0, ME2DN1, ME2DN2, ME2DN3, ME2DN4, ME2DN5, ME2DN6

Chromium

ME2DN0, ME2DN1, ME2DN2, ME2DN3, ME2DN4, ME2DN5, ME2DN6

Iron

ME2DN0, ME2DN1, ME2DN2, ME2DN3, ME2DN4, ME2DN5, ME2DN6

Magnesium

ME2DN0, ME2DN1, ME2DN2, ME2DN3, ME2DN4, ME2DN5, ME2DN6

The following inorganic samples are associated with field duplicate results which did not meet absolute difference (AD) primary criteria. ME2DN2 and ME2DN6 are field duplicates.

Hits are qualified "J" and non-detects are qualified "UJ".

Reviewed by: Stephen Connet
Date: 9/16/03

Arsenic

ME2DN0, ME2DN1, ME2DN2, ME2DN3, ME2DN4, ME2DN5, ME2DN6

6. ICP ANALYSIS:

DC-4: The following inorganic samples are associated with an ICP serial dilution percent difference which is not in control. The serial dilution result is greater than the sample result, indicating a potential negative interference. The data must be qualified using professional judgement.

Hits are qualified "J" and non-detects are qualified "UJ".

Sodium

ME2DN0, ME2DN1, ME2DN2, ME2DN3, ME2DN4, ME2DN5, ME2DN6

The following inorganic samples are associated with an inference check standard (ICS) that has analyte percent recovery outside low recovery criteria. Interferant concentration in the sample is comparable to that in the ICS.

Hits are qualified "J-", non-detects are qualified "UJ".

Lead

ME2DN0, ME2DN1, ME2DN2, ME2DN3, ME2DN4, ME2DN5, ME2DN6

The following inorganic sample results are affected by an interference check "A" sample (ICSA) for which consistent false positive concentration values greater than the MDL were obtained. The sample contains Al, Ca, Fe, or Mg at a level comparable to the ICSA.

Hits less than 10 times the value of the ICSA are qualified "J+". Non-detects are not qualified.

Cadmium

ME2DN0, ME2DN1, ME2DN2, ME2DN4, ME2DN5

Copper

ME2DN1, ME2DN3, ME2DN5

Nickel

ME2DN6

Zinc

ME2DN3, ME2DN5

The following results are affected by an interference check "A" sample (ICSA) for which consistent false negative concentration values greater than the absolute value of the MDL were obtained. The sample contains Al, Ca, Fe or Mg at a level comparable to that of the ICSA.

Hits less than 10 times the absolute value of the ICSA are qualified "J-", non-detects are qualified "UJ". Hits greater than 10 times the ICSA are not qualified.

Lead
ME2DN1, ME2DN3, ME2DN5

Silver
ME2DN0, ME2DN1, ME2DN2, ME2DN3, ME2DN4, ME2DN5, ME2DN6

Thallium
ME2DN0, ME2DN1, ME2DN2, ME2DN3, ME2DN4, ME2DN5, ME2DN6

7. GFAA ANALYSIS:

No GFAA analyses were performed for this case.

8. SAMPLE RESULTS:

The following inorganic samples have analyte concentrations reported above the MDL but below the quantitation limit (CRQL).

Results are qualified "J".

Sodium
ME2DN1, ME2DN2, ME2DN3, ME2DN4, ME2DN5, ME2DN6

All data, except those qualified above, are acceptable.

CADRE ILM05.2 Data Qualifier Sheet

Qualifiers **Data Qualifier Definitions**

- U** The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- J+** The result is an estimated quantity, but the result may be biased high.
- J-** The result is an estimated quantity, but the result may be biased low.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
- UJ** The analyte was analyzed for, but not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Analytical Results (Qualified Data)

Page 1 of 2

Case #: 32024

SDG : ME2DN0

Site : FANSTEEL VULCAN MATERIALS
Lab. : BONNER
Reviewer : S. CONNET
Date : 09/16/03

Number of Soil Samples : 7
Number of Water Samples : 0

Sample Number :	ME2DN0	ME2DN1	ME2DN2	ME2DN3	ME2DN4					
Sampling Location :	SB1-1	SB1-2	SB2-1	SB2-2	SB3-1					
Matrix :	Soil	Soil	Soil	Soil	Soil					
Units :	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg					
Date Sampled :	08/21/2003	08/21/2003	08/21/2003	08/21/2003	08/21/2003					
Time Sampled :	11:20	11:25	13:30	13:35	14:10					
%Solids :	88.9	83.1	88.7	88.3	87.6					
Dilution Factor :	1.0	1.0	1.0	1.0	1.0					
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	11000	J	7760	J	9070	J	5690	J	10800	J
ANTIMONY										
ARSENIC	5.3	J	5.9	J	7.9	J	6.8	J	7.6	J
BERYLLIUM	0.56	U	0.59	U	0.54	U	0.54	U	0.61	
CALCIUM	66000	J	82800	J	28400	J	55400	J	19400	J
COBALT	10.3		8.5		8.8		7.3		12.5	
IRON	24700	J	14800	J	19500	J	12600	J	29000	J
MAGNESIUM	33700	J	44800	J	18600	J	30700	J	14100	J
MERCURY	0.11	U	0.12	U	0.11	U	0.11	U	0.11	U
POTASSIUM	2950		2790		2020		2180		2520	
SILVER	1.1	UJ	1.2	UJ	1.1	UJ	1.1	UJ	1.1	UJ
THALLIUM	2.8	UJ	2.9	UJ	2.7	UJ	2.7	UJ	2.8	UJ
ZINC	3660	J	163	J	46.2	J	36.2	J	74.6	J

Analytical Results (Qualified Data)

Page 2 of 2

Case #: 32024

SDG : ME2DN0

Site :

FANSTEEL VULCAN MATERIALS

Lab. :

BONNER

Reviewer :

S. CONNET

Date :

09/16/03

Sample Number :	ME2DN5	ME2DN6								
Sampling Location :	SB3-2	SB2-1-D								
Matrix :	Soil	Soil								
Units :	mg/Kg	mg/Kg								
Date Sampled :	08/21/2003	08/21/2003								
Time Sampled :	14:15	13:40								
%Solids :	86.0	89.4								
Dilution Factor :	1.0	1.0								
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	7110	J	4670	J						
ARSENIC	5.8	J	3.5	J						
BERYLLIUM	0.56	U	0.54	U						
CALCIUM	79300	J	51500	J						
COBALT	7.5		5.4	U						
IRON	14400	J	10700	J						
MAGNESIUM	41900	J	27900	J						
MERCURY	0.12	U	0.11	U						
POTASSIUM	2680		1660							
SILVER	1.1	UJ	1.1	UJ						
THALLIUM	2.8	UJ	2.7	UJ						
ZINC	35.6	J	48.2	J						

QC EXCEPTION SUMMARY REPORT

CASE\ SAS #: 32024
 DATA SET: ME2DNO
 LAB QC #
 DATE: 9-16-03

SITE: FANSTEEL VULCAN MAT.
 LAB: BONNER
 REVIEWED BY: S. CONNET

MATRIX: SOIL
 CONC: LOW

WATER SAMPLE SPK: —
 WATER SAMPLE DUP: —
 SOIL SAMPLE SPK: ME2DNO
 SOIL SAMPLE DUP: "

FORM #	FORM 2	FORM 3	FORM 4	FORM 5	FORM 6	FORM 7	FORM 8	FORM 9	FORM 10	FORM 11	FORM 12	FORM 13	FORM 14	FORM 15	FORM 16	FORM 17	FORM 18	FORM 19	COMMENTS
ELEMENT	HOLD TIME	INITIAL CALIB	CONTIN CALIB	CALIB BLANK (+)	CALIB WATER BLANK (-)	ICP SR	ICP RPD	ICP A	ICP A	ICP SR	ICP RPD	ICP SR	ICP RPD						
ALUMINUM																		64	
ANTIMONY																			
ARSENIC				7.17														>2x CRRL	
BARIUM				1.24	-0.7														
BERYLLIUM				0.12															
CALCIUM				0.39				67/76		3.78								58	
CALCIUM																		59	
CHROMIUM																			
COBALT				-0.9															
COPPER									58	18.0									
IRON																		58	
LEAD						69		44	-7.49									40	
MAGNESIUM																			
MANGANESE																			
MERCURY																			
NICKEL								74/76		10.69									
POTASSIUM																			
SELENIUM				12.3				63/76											
SILVER																			
ZIRCONIA																			
THALLIUM				4.68				65/81		-4.42									
VANADIUM																			
ZINC																			
CYANIDE																			

(CSA) 5e - NO AFFECT (ALL SAMPLES U)
 PbAs - NO AFFECT (ALL 2 MOLES < 2x CRRL)

(CSA) ALL SAMPLES
 AFFECTED.



USEPA Contract Laboratory Program
Inorganic Traffic Report & Chain of Custody Record

Case No: 32024

DAS No:

SDG No:

ME2DN0

Date Shipped: 8/21/2003	Chain of Custody Record		Sampler Signature:	
Carrier Name: FedEx	Relinquished By	(Date / Time)	Received By	(Date / Time)
Airbill: 835992094819	1	Scott Splittgerber 8/21/03	1650	
Shipped to: Bonner Analytical Testing Co. 2703 Oak Grove Rd. Hattiesburg MS 39402 (601) 264-2854	2		Bonner	8-22-03 0905
	3			
	4			

For Lab Use Only

Lab Contract No: 69W02067

Unit Price: \$82.00

Transfer To:

Lab Contract No:

Unit Price: BW 9-22-03

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	ORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
ME2DN0	Soil/Sediment/ Scott Splittgerber	L/G	TM (21)	5-044773 (Ice Only) (1)	SB1-1	S: 8/21/2003	E2DN0	9000
ME2DN1	Soil/Sediment/ Scott Splittgerber	L/G	TM (21)	5-044776 (Ice Only) (1)	SB1-2	S: 8/21/2003	E2DN1	
ME2DN2	Soil/Sediment/ Scott Splitgerber	L/G	TM (21)	5-044779 (Ice Only) (1)	SB2-1	S: 8/21/2003	E2DN2	
ME2DN3	Soil/Sediment/ Scott Splitgerber	L/G	TM (21)	5-044782 (Ice Only) (1)	SB2-2	S: 8/21/2003	E2DN3	
ME2DN4	Soil/Sediment/ Scott Splittgerber	L/G	TM (21)	5-044785 (Ice Only) (1)	SB3-1	S: 8/21/2003	E2DN4	
ME2DN5	Soil/Sediment/ Scott Splittgerber	L/G	TM (21)	5-044788 (Ice Only) (1)	SB3-2	S: 8/21/2003	E2DN5	
ME2DN6	Soil/Sediment/ Scott Splittgerber	L/G	TM (21)	5-044791 (Ice Only) (1)	SB2-1-D	S: 8/21/2003	E2DN6	
ME2DN7	Canned Water/ Scott Splittgerber	L/G	TM (21)	5-044794 (Ice Only) (1)	SB2-1-D	S: 8/21/2003		SV
ME2DN8	Canned Water/ Scott Splittgerber	L/G	TM (21)	5-044795 (Ice Only) (1)	SB2-1-D	S: 8/21/2003		SV
ME2DN9	Canned Water/ Scott Splittgerber	L/G	TM (21)	5-044796 (Ice Only) (1)	SB2-1-D	S: 8/21/2003		SV

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC: ME2DN0, ME2DN9	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt: 1.4°C	Chain of Custody Seal Number: 88217
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Custody Seal Intact? <input checked="" type="checkbox"/>	Shipment Iced? <input checked="" type="checkbox"/>
TM = CLP TAL Total Metals				

TR Number: 5-425252540-082003-0001

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, 2000 Edmund Halley Dr., Reston, VA 20191-3400 Phone 703/264-9348 Fax 703/264-9222

LABORATORY COPY

SEP 03 2003

004

Bonner Analytical Testing Company



2703 Oak Grove Road, Hattiesburg, MS 39402
Phone: (601) 264-2854 Fax: (601) 268-7084

SDG NARRATIVE:

SDG Number: ME2DN0

Case Number: 32024

Contract Number: 68W02067

Sample Receipt:

Samples in this SDG were received at BATCO on 08/22/03 under FedEx airbill number 8359 9209 4819, respectively. Custody seals were present and intact, and the cooler temp measured 1.4°C, respectively. Sample ME2DN0 was listed for QC. Samples were processed by the Sample Custodian upon receipt. E-mails within this CSF can be referred to for discrepancies found during sample receipt.

1. There was no temperature blank present upon receipt of the samples. The temperature was determined by placement of the thermometer inside the cooler for five minutes. The temperature was recorded at 1.4°C.

Resolution: In accordance with previous directions from Region 5, if the temperature of the cooler is less than or equal to 10 degrees C, the laboratory will note the issue, and the method used to determine the temperature, in the SDG Narrative and proceed with the analysis of the samples.

2. The TR/COC listed only TM analysis, but the samples were scheduled for TM and Hg.

Resolution: The samples requested for ICP Metals/Hg that are listed on the TR/COC of TM only should be analyzed for ICP Metals/Hg.

3. The TR/COC listed 21 day TAT, but the samples were scheduled for a 14 day TAT.

Resolution: In accordance with previous direction from Region 5, the laboratory will proceed with the turnaround time provided at scheduling, note the issue in the SDG Narrative, and proceed with the analysis of the samples.

ICP-AES Metals

The first analytical run for ICP Metals was performed on 08/27/03 at 1439 hrs. Sample ME2DN0 was above the linear range for zinc. The Sample Duplicate failed for copper, lead, and zinc. The results from the Sample Duplicate were reported as analyzed and flagged in the CSF. The Matrix Spike failed for antimony, cadmium, nickel, selenium, and thallium. A Post Analytical Spike was prepared at twice the CRQL for antimony (240 ppb), selenium (140 ppb), and thallium (100 ppb) and analyzed during this run.

The second analytical run for ICP Metals was performed on 08/29/03 at 1651 hrs. This run was analyzed for the Sample ME2DN0 at 1:2 dilution and analyzed for zinc. A Post Analytical Spike was prepared at twice the indigenous levels for cadmium (30 ppb) and nickel (496 ppb).

CSF

No Discrepancies

Authorized by



Steve Flowers

Quality Assurance Officer

SEP 03 2003 003

COVER PAGE

Lab Name: Bonner Analytical Testing Company Contract: 68W02067Lab Code: BONNER Case No: 32024 NRAS No.: _____ SDG No: ME2DN0SOW No.: ILM05.2

EPA Sample No.	Lab Sample ID
ME2DN0	BT91791
ME2DN0D	BT91791D
ME2DN0S	BT91791S
ME2DN1	BT91792
ME2DN2	BT91793
ME2DN3	BT91794
ME2DN4	BT91795
ME2DN5	BT91796
ME2DN6	BT91797

ICP-AES ICP-MS

Were ICP-AES and ICP-MS interelement corrections applied? (Yes/No) YES YESWere ICP-AES and ICP-MS background corrections applied? (Yes/No) YES YESIf yes, were raw data generated before application of background corrections? (Yes/No) NO NOComments: Sodium was flagged as "E" estimated due to interferences occurring during the analysis of the Serial Dilution.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette (or via an alternate means of electronic transmission, if approved in advance by USEPA) has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Name: Christopher M. BonnerDate: 9/2/03Title: Inorganic Laboratory Manager

USEPA - CLP

1A-IN

INORGANIC ANALYSIS DATA SHEET

006

EPA SAMPLE NO.

ME2DN0

Lab Name: Bonner Analytical Testing Compa Contract: 68W02067
 Lab Code: BONNER Case No.: 32024 NRAS No.: SDG NO.: ME2DN0
 Matrix (soil/water): SOIL Lab Sample ID: BT91791
 Level (low/med): LOW Date Received: 8/22/2003
 Solids: 88.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11000			P
7440-36-0	Antimony	6.7 13.4 ^U _{mg/kg-03}		N	P
7440-38-2	Arsenic	5.3			P
7440-39-3	Barium	84.7			P
7440-41-7	Beryllium	0.560-0.50 ^U _{mg/kg-03}			P
7440-43-9	Cadmium	1.7		N	P
7440-70-2	Calcium	66000			P
7440-47-3	Chromium	20.0			P
7440-48-4	Cobalt	10.3 ^U _{mg/kg-03}			P
7440-50-8	Copper	736		*	P
7439-89-6	Iron	24700			P
7439-92-1	Lead	861		*	P
7439-95-4	Magnesium	33700			P
7439-96-5	Manganese	594			P
7439-97-6	Mercury	0.11 ^U			CV
7440-02-0	Nickel	27.7		N	P
7440-09-7	Potassium	2950			P
7782-49-2	Selenium	3.4 ^U 2.2 ^U _{mg/kg-03} N			P
7440-22-4	Silver	1.1 2.2 ^U _{mg/kg-03}			P
7440-23-5	Sodium	2390		E	P
7440-28-0	Thallium	2.8 ^U 4.9 ^U _{mg/kg-03} N			P
7440-62-2	Vanadium	22.2			P
7440-66-6	Zinc	3660		*	P

Color Before: Brown Clarity Before: Texture: Medium

Color After: Yellow Clarity After: Artifacts: Yes

Comments: Rocks

USEPA - CLP

1A-IN

INORGANIC ANALYSIS DATA SHEET

007

EPA SAMPLE NO.

ME2DN1

Lab Name: Bonner Analytical Testing Compa Contract: 68W02067
 Lab Code: BONNER Case No.: 32024 NRAS No.: SDG NO.: ME2DNO
 Matrix (soil/water): SOIL Lab Sample ID: BT91792
 Level (low/med): LOW Date Received: 8/22/2003
 % Solids: 83.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7760			P
7440-36-0	Antimony	7.1 14.2 4.1 U 9-16-03 N			P
7440-38-2	Arsenic	5.9			P
7440-39-3	Barium	29.4 10.4-16-03			P
7440-41-7	Beryllium	0.59 U 0.38 J 9-16-03			P
7440-43-9	Cadmium	0.76 10.4-16-03 N			P
7440-70-2	Calcium	82800			P
7440-47-3	Chromium	13.3			P
7440-48-4	Cobalt	8.5 10.4-16-03			P
7440-50-8	Copper	18.2		*	P
7439-89-6	Iron	14800			P
7439-92-1	Lead	7.9		*	P
7439-95-4	Magnesium	44800			P
7439-96-5	Manganese	582			P
7439-97-6	Mercury	0.12 U			CV
7440-02-0	Nickel	19.4		N	P
7440-09-7	Potassium	2790			P
7782-49-2	Selenium	4.1 U 1.4 J 9-16-03 N			P
7440-22-4	Silver	1.2 2.4 U 9-16-03			P
7440-23-5	Sodium	243 J E			P
7440-28-0	Thallium	2.9 U 1.4 J 9-16-03 N			P
7440-62-2	Vanadium	17.9			P
7440-66-6	Zinc	163		*	P

Color Before: Gray Clarity Before: Texture: Fine

Color After: Yellow Clarity After: Artifacts: Yes

Comments: Rocks

USEPA - CLP

1A-IN

008

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

ME2DN2

Lab Name: Bonner Analytical Testing Compa Contract: 68W02067
 Lab Code: BONNER Case No.: 32024 NRAS No.: _____ SDG NO.: ME2DN0
 Matrix (soil/water): SOIL Lab Sample ID: BT91793
 Level (low/med): LOW Date Received: 8/22/2003
 Solids: 88.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9070			P
7440-36-0	Antimony	6.4 12.9 ^U 9-16-03		N	P
7440-38-2	Arsenic	7.9			P
7440-39-3	Barium	40.1 J ^U 9-16-03			P
7440-41-7	Beryllium	0.54 J ^U 9-16-03			P
7440-43-9	Cadmium	0.83 J ^U 9-16-03	N		P
7440-70-2	Calcium	28400			P
7440-47-3	Chromium	16.4			P
7440-48-4	Cobalt	8.6 J ^U 9-16-03			P
7440-50-8	Copper	25.5		*	P
7439-89-6	Iron	19500			P
7439-92-1	Lead	11.4		*	P
7439-95-4	Magnesium	18600			P
7439-96-5	Manganese	320			P
7439-97-6	Mercury	0.11 U			CV
7440-02-0	Nickel	18.2		N	P
7440-09-7	Potassium	2020			P
7782-49-2	Selenium	3.8 7.5 ^U 9-16-03	N		P
7440-22-4	Silver	1.1 2.1 ^U 9-16-03			P
7440-23-5	Sodium	427 J	E		P
7440-28-0	Thallium	2.7U 1.4 ^U 9-16-03	N		P
7440-62-2	Vanadium	20.8			P
7440-66-6	Zinc	46.2		*	P

Color Before: Brown Clarity Before: _____ Texture: MediumColor After: Yellow Clarity After: _____ Artifacts: YesComments: Rocks, Plant Matter

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1A-IN

INORGANIC ANALYSIS DATA SHEET

009

EPA SAMPLE NO.

ME2DN3

Lab Name: Bonner Analytical Testing Compa Contract: 68W02067
 Lab Code: BONNER Case No.: 32024 NRAS No.: _____ SDG NO.: ME2DN0
 Matrix (soil/water): SOIL Lab Sample ID: BT91794
 Level (low/med): LOW Date Received: 8/22/2003
 % Solids: 88.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6.5 5690			P
7440-36-0	Antimony	6.50 43.1	U	N	P
7440-38-2	Arsenic	6.8			P
7440-39-3	Barium	21.80 15.7	J	8-16-03	P
7440-41-7	Beryllium	0.540 0.32	J	9-16-03	P
7440-43-9	Cadmium	0.540 0.49	J	9-16-03 N	P
7440-70-2	Calcium	55400			P
7440-47-3	Chromium	12.7			P
7440-48-4	Cobalt	7.3	-J	8-16-03	P
7440-50-8	Copper	17.7		*	P
7439-89-6	Iron	12600			P
7439-92-1	Lead	6.9		*	P
7439-95-4	Magnesium	30700			P
7439-96-5	Manganese	468			P
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	16.9		N	P
7440-09-7	Potassium	2190			P
7782-49-2	Selenium	3.8 7.6	U	N	P
7440-22-4	Silver	1.1 2.2	U		P
7440-23-5	Sodium	178	J	E	P
7440-28-0	Thallium	2.70 1.6	J	9-16-03 N	P
7440-62-2	Vanadium	14.9			P
7440-66-6	Zinc	36.2		*	P

Color Before: Gray Clarity Before: _____ Texture: CoarseColor After: Yellow Clarity After: _____ Artifacts: YesComments: Rocks

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1A-IN

INORGANIC ANALYSIS DATA SHEET

010

EPA SAMPLE NO.

ME2DN4

Lab Name: Bonner Analytical Testing Compa Contract: 68W02067
 Lab Code: BONNER Case No.: 32024 NRAS No.: _____ SDG NO.: ME2DN0
 Matrix (soil/water): SOIL Lab Sample ID: BT91795
 Level (low/med): LOW Date Received: 8/22/2003
 Solids: 87.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10800			P
7440-36-0	Antimony	6.8 19.6 9-16-03		N	P
7440-38-2	Arsenic	7.6			P
7440-39-3	Barium	40.6	J 9-16-03		P
7440-41-7	Beryllium	0.61	J 9-16-03		P
7440-43-9	Cadmium	1.4		N	P
7440-70-2	Calcium	19400			P
7440-47-3	Chromium	19.8			P
7440-48-4	Cobalt	12.5			P
7440-50-8	Copper	29.5		*	P
7439-89-6	Iron	29000			P
7439-92-1	Lead	18.2		*	P
7439-95-4	Magnesium	14100			P
7439-96-5	Manganese	436			P
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	29.4		N	P
7440-09-7	Potassium	2520			P
7782-49-2	Selenium	4.0 U 2.0	J 9-16-03 N		P
7440-22-4	Silver	1.1 U 2.3	J 9-16-03		P
7440-23-5	Sodium	111	J	E	P
7440-28-0	Thallium	2.8 U 2.2	J 9-16-03 N		P
7440-62-2	Vanadium	32.7			P
7440-66-6	Zinc	74.6		*	P

Color Before: Brown Clarity Before: _____ Texture: MediumColor After: Yellow Clarity After: _____ Artifacts: YesComments: Rocks

USEPA - CLP

1A-IN

011

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

ME2DN5

Lab Name: Bonner Analytical Testing Compa Contract: 68W02067
 Lab Code: BONNER Case No.: 32024 NRAS No.: _____ SDG NO.: ME2DN0
 Matrix (soil/water): SOIL Lab Sample ID: BT91796
 Level (low/med): LOW Date Received: 8/22/2003
 % Solids: 86.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7110			P
7440-36-0	Antimony	6.8 43.5 u 9-16-03		N	P
7440-38-2	Arsenic	5.8			P
7440-39-3	Barium	29.0	J u 9-16-03		P
7440-41-7	Beryllium	0.56 U 0.36	J u 9-16-03		P
7440-43-9	Cadmium	0.64	J u 9-16-03	N	P
7440-70-2	Calcium	79300			P
7440-47-3	Chromium	12.6			P
7440-48-4	Cobalt	7.5	J u 9-16-03		P
7440-50-8	Copper	18.1		*	P
7439-89-6	Iron	14400			P
7439-92-1	Lead	7.7		*	P
7439-95-4	Magnesium	41900			P
7439-96-5	Manganese	525			P
7439-97-6	Mercury	0.12	U		CV
7440-02-0	Nickel	17.5		N	P
7440-09-7	Potassium	2680			P
7782-49-2	Selenium	3.9 7.9 u 9-16-03		N	P
7440-22-4	Silver	1.1 2.3 u 9-16-03			P
7440-23-5	Sodium	220	J	E	P
7440-28-0	Thallium	2.8 U 1.1	J u 9-16-03	N	P
7440-62-2	Vanadium	16.2			P
7440-66-6	Zinc	35.6		*	P

Color Before: Gray Clarity Before: _____ Texture: Fine
 Color After: Yellow Clarity After: _____ Artifacts: _____

Comments:

USEPA - CLP

1A-IN

INORGANIC ANALYSIS DATA SHEET

012

EPA SAMPLE NO.

ME2DN6

Lab Name: Bonner Analytical Testing Compa Contract: 68W02067
 Lab Code: BONNER Case No.: 32024 NRAS No.: SDG NO.: ME2DN0
 Matrix (soil/water): SOIL Lab Sample ID: BT91797
 Level (low/med): LOW Date Received: 8/22/2003
 Solids: 89.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4670			P
7440-36-0	Antimony	6.5 13.0	U	N	P
7440-38-2	Arsenic	3.5			P
7440-39-3	Barium	21.7 18.4	J	8/16-03	P
7440-41-7	Beryllium	0.540 0.26	J	8/16-03	P
7440-43-9	Cadmium	0.540 0.51	J	8/16-03 N	P
7440-70-2	Calcium	51500			P
7440-47-3	Chromium	9.0			P
7440-48-4	Cobalt	5.40 4.4	J	8/16-03	P
7440-50-8	Copper	20.9		*	P
7439-89-6	Iron	10700			P
7439-92-1	Lead	10.1		*	P
7439-95-4	Magnesium	27900			P
7439-96-5	Manganese	422			P
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	10.8		N	P
7440-09-7	Potassium	1660			P
7782-49-2	Selenium	3.8 7.6	U	8/16-03 N	P
7440-22-4	Silver	1.1 2.2	U	8/16-03	P
7440-23-5	Sodium	196	J	E	P
7440-28-0	Thallium	2.70 1.8	J	8/16-03 N	P
7440-62-2	Vanadium	14.1			P
7440-66-6	Zinc	48.2		*	P

Color Before: Brown Clarity Before: Texture: Medium

Color After: Yellow Clarity After: Artifacts: Yes

Comments: Rocks, Plant Matter

USEPA - CLP

3-IN

BLANKS

028

: b Name: Bonner Analytical Testing Com Contract: 68W02067Lab Code: BONNER Case No.: 32024 NRAS No.: _____ SDG NO.: ME2DN0Preparation Blank Matrix (soil/water): SOILPreparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		
		C	1	C	2	C	3	C		C	M
Aluminum	13.1	J	48.6	J	200.0	U	14.4	J	40.000	U	P
Antimony	5.5	J	60.0	U	5.9	J	60.0	U	12.000	U	P
Arsenic	4.0	J	15.0	U	5.3	J	15.0	U	-1.235	J	P
Barium	-0.7	J	0.7	J	-0.6	J	200.0	U	-0.101	J	P
Beryllium	0.07	J	0.12	J	5.00	U	0.07	J	1.000	U	P
Cadmium	5.0	U	0.4	J	5.0	U	0.4	J	-0.035	J	P
Calcium	15.8	J	59.2	J	5000.0	U	5000.0	U	1000.000	U	P
Chromium	10.0	U	10.0	U	10.0	U	0.5	J	0.055	J	P
Cobalt	-0.6	J	-0.9	J	-0.8	J	50.0	U	-0.053	J	P
Copper	25.0	U	25.0	U	25.0	U	25.0	U	0.411	J	P
Iron	100.0	U	26.0	J	100.0	U	100.0	U	2.078	J	P
Lead	5.3	J	10.0	U	10.0	U	10.0	U	2.000	U	P
Magnesium	-18.4	J	24.8	J	-28.5	J	-17.4	J	-3.035	J	P
Manganese	15.0	U	0.6	J	15.0	U	0.5	J	0.120	J	P
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.100	U	CV
Nickel	-1.4	J	-0.8	J	-1.0	J	40.0	U	0.136	J	P
Potassium	-10.2	J	5000.0	U	5000.0	U	-14.9	J	-2.524	J	P
Selenium	35.0	U	11.6	J	35.0	U	35.0	U	7.000	U	P
Silver	0.5	J	0.7	J	10.0	U	10.0	U	2.000	U	P
Sodium	5000.0	U	5000.0	U	5000.0	U	5000.0	U	27.229	J	P
Thallium	25.0	U	25.0	U	25.0	U	25.0	U	5.000	U	P
Vanadium	50.0	U	0.7	J	50.0	U	50.0	U	10.000	U	P
Zinc	4.0	J	8.4	J	3.5	J	2.9	J	0.576	J	P

USEPA - CLP

3-IN

BLANKS

029

Lab Name: Bonner Analytical Testing Com

Contract: 68W02067

Lab Code: BONNER

Case No.: 32024

NRAS No.:

SDG NO.: ME2DN0

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank			
		C	1	C	2	C	3	C		C	M	
Aluminum			27.3	J	14.8	J		25.3	J			P
Antimony			5.4	J	5.4	J		60.0	U			P
Arsenic			2.8	J	7.2	J		-4.3	J			P
Barium			200.0	U	1.2	J		0.6	J			P
Beryllium			0.09	J	0.09	J		0.08	J			P
Cadmium			5.0	U	0.4	J		5.0	U			P
Calcium			22.7	J	5000.0	U		18.0	J			P
Chromium			0.6	J	0.7	J		10.0	U			P
Cobalt			-0.5	J	50.0	U		50.0	U			P
Copper			25.0	U	25.0	U		3.4	J			P
Iron			12.8	J	12.0	J		15.0	J			P
Lead			10.0	U	4.0	J		10.0	U			P
Magnesium			5000.0	U	-13.3	J		5000.0	U			P
Manganese			15.0	U	0.4	J		0.3	J			P
Nickel			-0.9	J	40.0	U		-0.8	J			P
Potassium			-12.8	J	-20.0	J		-26.3	J			P
Selenium			35.0	U	9.4	J		35.0	U			P
Silver			10.0	U	10.0	U		10.0	U			P
Sodium			5000.0	U	5000.0	U		5000.0	U			P
Thallium			25.0	U	25.0	U		25.0	U			P
Vanadium			0.7	J	50.0	U		50.0	U			P
Zinc			2.7	J	60.0	U		2.2	J			P

USEPA - CLP

3-IN

BLANKS

030

Lab Name: Bonner Analytical Testing Com Contract: 68W02067Lab Code: BONNER Case No.: 32024 NRAS No.: _____ SDG NO.: ME2DNOPreparation Blank Matrix (soil/water): WATERPreparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank	
	C	1	C	2	C	3	C		C	M
Aluminum		17.1	J	19.7	J					P
Antimony		6.4	J	60.0	U					P
Arsenic		4.5	J	15.0	U					P
Barium		200.0	U	200.0	U					P
Beryllium		0.07	J	0.09	J					P
Cadmium		5.0	U	5.0	U					P
Calcium		27.3	J	5000.0	U					P
Chromium		10.0	U	10.0	U					P
Cobalt		-0.8	J	50.0	U					P
Copper		4.9	J	25.0	U					P
Iron		20.4	J	18.1	J					P
Lead		4.1	J	10.0	U					P
Magnesium		5000.0	U	5000.0	U					P
Manganese		0.7	J	0.5	J					P
Nickel		-1.0	J	40.0	U					P
Potassium		-32.5	J	-36.4	J					P
Selenium		12.1	J	12.3	J					P
Silver		0.5	J	10.0	U					P
Sodium		5000.0	U	5000.0	U					P
Thallium		25.0	U	4.7	J					P
Vanadium		50.0	U	50.0	U					P
Zinc		60.0	U	2.9	J					P

USEPA - CLP

3-IN

031

BLANKS

Lab Name: Bonner Analytical Testing Com Contract: 68W02067Lab Code: BONNER Case No.: 32024 NRAS No.: _____ SDG NO.: ME2DNOPreparation Blank Matrix (soil/water): WATERPreparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank			
		C	1	C	2	C	3	C		C	M	
Cadmium	5.0	U	5.0	U	0.4	J						P
Nickel	40.0	U	40.0	U	40.0	U						P
Zinc	60.0	U	60.0	U	60.0	U						P

USEPA - CLP

4A-IN

ICP-AES INTERFERENCE CHECK SAMPLE

032

Lab Name: Bonner Analytical Testing Company Contract: 68W02067

Lab Code: BONNER Case No.: 32024 NRAS No.: SDG NO.: ME2DN0

CP-AES Instrument ID: Spectro Ciros01 ICS Source: EPA

Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol.A	Sol AB	Sol.A	%R	Sol AB	%R	Sol.A	%R	Sol AB	%R
Aluminum	241700	241700	270665	112	269140.0	111	271567	112	270598.0	112
Antimony	0	568	5		584.6	103	-3		583.6	103
Arsenic	0	94	-5		108.5	115	0		101.5	108
Barium	0	503	2		513.9	102	2		512.7	102
Beryllium	0	467	0		467.3	100	0		473.1	101
Cadmium	0	936	3		956.1	102	4		954.9	102
Calcium	233100	232200	252371	108	249294.0	107	251957	108	252048.0	109
Chromium	37	485	37	100	505.6	104	36	97	505.6	104
Cobalt	0	463	3		484.8	105	3		484.4	105
Copper	0	511	17		527.5	103	16		530.1	104
Iron	93880	93680	97243	104	95896.3	102	96634	103	95748.5	102
Lead	0	52	-5		42.3	81	-5		37.8	73
Magnesium	247700	246400	261984	106	262956.0	107	262964	106	258361.0	105
Manganese	0	486	26		519.8	107	26		521.3	107
Nickel	0	912	11		941.3	103	11		938.8	103
Potassium	0		26		21.9		25		16.1	
Selenium	0	47	10		46.4	99	15		60.5	129
Silver	0	203	-1		214.6	106	-1		214.8	106
Sodium	0		712		1109.1		551		1031.3	
Thallium	0	92	-3		88.0	96	-3		87.6	95
Vanadium	0	471	1		498.6	106	2		501.2	106
Zinc	0	975	40		1031.3	106	37		1032.8	106

USEPA - CLP

4A-IN

ICP-AES INTERFERENCE CHECK SAMPLE

033

Lab Name: Bonner Analytical Testing Company Contract: 68W02067Lab Code: BONNER Case No.: 32024 NRAS No.: _____ SDG NO.: ME2DN0ICP-AES Instrument ID: Spectro Ciros01 ICS Source: EPA

Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol.A	Sol AB	Sol.A	%R	Sol AB	%R	Sol.A	%R	Sol AB	%R
Aluminum	241700	241700					270016	112	267674.0	111
Antimony	0	568					-1		588.6	104
Arsenic	0	94					-1		93.8	100
Barium	0	503					2		510.6	102
Beryllium	0	467					0		467.5	100
Cadmium	0	936					4		950.4	102
Calcium	233100	232200					251112	108	248133.0	107
Chromium	37	485					36	97	505.1	104
Cobalt	0	463					3		485.2	105
Copper	0	511					16		525.6	103
Iron	93880	93680					95764	102	95678.4	102
Lead	0	52					-7		39.5	76
Magnesium	247700	246400					261367	106	260059.0	106
Manganese	0	486					26		519.1	107
Nickel	0	912					9		939.5	103
Potassium	0						11		-0.6	
Selenium	0	47					14		51.3	109
Silver	0	203					-1		214.8	106
Sodium	0						476		985.4	
Thallium	0	92					-4		92.9	101
Vanadium	0	471					1		497.9	106
Zinc	0	975					36		1025.9	105

USEPA - CLP

4A-IN

ICP-AES INTERFERENCE CHECK SAMPLE

034

Lab Name: Bonner Analytical Testing Company Contract: 68W02067Lab Code: BONNER Case No.: 32024 NRAS No.: _____ SDG NO.: ME2DN0CP-AES Instrument ID: Spectro Ciros01 ICS Source: EPA

Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol.A	Sol AB	Sol.A	%R	Sol AB	%R	Sol.A	%R	Sol AB	%R
Aluminum	241700	241700					264473	109	262427.0	109
Antimony	0	568					6		580.5	102
Arsenic	0	94					1		104.8	111
Barium	0	503					2		506.0	101
Beryllium	0	467					0		462.4	99
Cadmium	0	936					3		944.0	101
Calcium	233100	232200					249407	107	245459.0	106
Chromium	37	485					36	97	501.2	103
Cobalt	0	463					3		479.8	104
Copper	0	511					16		517.0	101
Iron	93880	93680					95769	102	95730.0	102
Lead	0	52					-7		35.7	69
Magnesium	247700	246400					261578	106	258083.0	105
Manganese	0	486					26		514.8	106
Nickel	0	912					9		936.6	103
Potassium	0						-15		-22.8	
Selenium	0	47					11		58.0	123
Silver	0	203					0		211.9	104
Sodium	0						620		1066.5	
Thallium	0	92					-3		87.0	95
Vanadium	0	471					1		492.3	105
Zinc	0	975					34		1020.6	105

USEPA - CLP

4A-IN

ICP-AES INTERFERENCE CHECK SAMPLE

035

Lab Name: Bonner Analytical Testing CompanyContract: 68W02067Lab Code: BONNERCase No.: 32024

NRAS No.: _____

SDG NO.: ME2DN0ICP-AES Instrument ID: Spectro Ciros01ICS Source: EPA

Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol.A	Sol AB	Sol.A	%R	Sol AB	%R	Sol.A	%R	Sol AB	%R
Aluminum	241700	241700					265991	110	256676.0	106
Antimony	0	568					-2		581.4	102
Arsenic	0	94					-10		102.1	109
Barium	0	503					3		506.8	101
Beryllium	0	467					0		458.5	98
Cadmium	0	936					3		947.3	101
Calcium	233100	232200					253614	109	244375.0	105
Chromium	37	485					36	97	502.8	104
Cobalt	0	463					3		479.5	104
Copper	0	511					18		513.5	100
Iron	93880	93680					96166	102	95894.1	102
Lead	0	52					-7		46.8	90
Magnesium	247700	246400					260930	105	259597.0	105
Manganese	0	486					27		516.3	106
Nickel	0	912					9		935.6	103
Potassium	0						-20		-26.8	
Selenium	0	47					0		62.3	133
Silver	0	203					0		210.2	104
Sodium	0						533		1113.4	
Thallium	0	92					-2		92.1	100
Vanadium	0	471					2		490.8	104
Zinc	0	975					36		1024.6	105

USEPA - CLP

5A-IN

037

MATRIX SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

ME2DN0S

Lab Name: Bonner Analytical Testing Compa Contract: 68W02067
 Lab Code: BONNER Case No.: 32024 NRAS No.: SDG NO.: ME2DN0
 Matrix (soil/water): SOIL Level (low/med): LOW
 Solids for Sample: 88.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum		10727.0000		10982.4199		0.00	0		P
Antimony	75 - 125	2.2468	J	6.4818	U	22.06	10	N	P
Arsenic	75 - 125	11.9929		5.2644		8.82	76		P
Barium	75 - 125	441.2986		84.7344		441.12	81		P
Beryllium	75 - 125	9.1565		0.5028	J	11.03	78		P
Cadmium	75 - 125	9.0826		1.6627		11.03	67	N	P
Calcium		65671.6797		65980.2891		0.00	0		P
Chromium	75 - 125	54.0420		20.0080		44.11	77		P
Cobalt	75 - 125	96.2805		10.3296	J	110.28	78		P
Copper		523.9218		736.4653		55.14	-385		P
Iron		22506.8594		24717.6992		0.00	0		P
Lead		703.4719		861.3219		4.41	-3579		P
Magnesium		34610.9688		33744.1914		0.00	0		P
Manganese		725.4473		594.1172		110.28	119		P
Mercury	75 - 125	0.5623		0.1125	U	0.56	100		CV
Nickel	75 - 125	109.6953		27.6510		110.28	74	N	P
Potassium		3181.9419		2945.8889		0.00	0		P
Selenium	75 - 125	9.0872		2.1675	J	11.03	63	N	P
Silver	75 - 125	8.7074	0.6576	1.9-2.056	U	11.03	-73		P
Sodium		1650.2880		2392.1160		0.00	0		P
Thallium	75 - 125	9.0485		1.9148	J	11.03	65	N	P
Vanadium	75 - 125	112.6778		22.1527		110.28	82		P
Zinc		2283.9851		3569.2109		110.28	-1165		P

3662, 7737 ~9-16-03

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Comments:

USEPA - CLP

5B-IN

038

POST-DIGESTION SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

ME2DN0A

Lab Name: Bonner Analytical Testing CompContract: 68W02067Lab Code: BONNERCase No.: 32024

NRAS No.:

SDG NO.: ME2DN0Matrix (soil/water): SOILLevel (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	Sample Result (SR)		Spike Added (SA)	%R	Q	M
			C	C				
Antimony		188.77		4.70	U	240.0	79	P
Cadmium		37.88		14.93		30.0	76	P
Nickel		723.46		248.28		496.0	96	P
Selenium		125.20		19.46	J	140.0	76	P
Thallium		97.78		17.19	J	100.0	81	P

Comments:

DUPLICATES

EPA SAMPLE NO.

ME2DNOD

Lab Name: Bonner Analytical Testing Compa

Contract: 68W02067

ab Code: BONNER

Case No.: 32024

NRAS No.:

SDG

ME2DN0

NO.:

Matrix (soil/water):

SOIL

Level (low/med): LOW

Solids for Sample:

88.9

% Solids for Duplicate: 89.1

Concentration Units: (ug/L or mg/kg dry weight):

MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		10982.4199		11278.2402		3		P
Antimony		6.6818 13.3647	U	6.6818 13.3647	U			P
Arsenic	3.3412	5.2644		4.6120		13		P
Barium	44.5489	84.7344		82.3837		3		P
Beryllium		0.5028	J	0.5272	J	5		P
Cadmium	1.1137	1.6627		1.3538		20		P
Calcium		65980.2891		68477.5469		4		P
Chromium		20.0080		19.8750		1		P
Cobalt		10.3296	J	10.0385	J	3		P
Copper		736.4653		405.6566		58	*	P
Iron		24717.6992		21422.4395		14		P
Lead		861.3219		549.5202		44	*	P
Magnesium		33744.1914		35707.2617		6		P
Manganese		594.1172		535.8309		10		P
Mercury		0.1125	U	0.1125 U 0.0420	5-16-03	200		CV
Nickel	8.9098	27.6510		25.5014		8		P
Potassium	1113.7220	2945.8889		3592.6809		20		P
Selenium		2.1675	J	3.8917 U 0.0014	52 16-03 22	200		P
Silver		0.5544 J 0.56334	U	0.6596 J 2.2274	5-16-03			P
Sodium	1113.7220	2392.1160		1575.7220		41		P
Thallium		1.9148	J	2.0941	J	9		P
Vanadium	11.1372	22.1527		22.6829		2		P
Zinc		~9.16-03 3569.2109		2323.9900		~9.16-03	*	P

3662.7737

45

Ag

1.1136 U

1.1136 U

Ag RPD=17 ~9.16-03

8-IN

041

ICP-AES and ICP-MS SERIAL DILUTIONS

EPA SAMPLE NO.

ME2DN0L

Lab Name: Bonner Analytical Testing Company Contract: 68W02067Lab Code: BONNER Case No.: 32024 NRAS No.: _____ SDG NO.: ME2DN0Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)		Serial Dilution Result (S)		% Difference		Q	M
	C		C					
Aluminum	98610.08		96291.84		2		P	
Antimony	60.00	U	300.00	U			P	
Arsenic	47.27		29.63	J	37		P	
Barium	760.82		778.11	J	2		P	
Beryllium	4.51	J	4.85	J	8		P	
Cadmium	14.93		11.41	J	24		P	
Calcium	592430.38		593163.00		0		P	
Chromium	179.65		186.26		4		P	
Cobalt	92.75		95.46	J	3		P	
Copper	6612.65		6602.01		0		P	
Iron	221937.70		242238.30		9		P	
Lead	7733.72		8137.15		5		P	
Magnesium	302985.69		312787.00		3		P	
Manganese	5334.52		5583.07		5		P	
Nickel	248.28		267.97		8		P	
Potassium	26450.84		25242.60		5		P	
Selenium	19.46	J	58.01	J	198		P	
Silver	10.00	U	50.00	U			P	
Sodium	21478.57		25560.88		19	E	P	
Thallium	17.19	J	125.00	U	100		P	
Vanadium	198.91		203.89	J	3		P	
Zinc	32890.27		34601.82		5		P	

USEPA - CLP

9-IN

042

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: Bonner Analytical Testing Compa Contract: 68W02067
 ab Code: BONNER Case No.: 32024 NRAS No.: _____ SDG NO.: ME2DN0
 Instrument Type: P Instrument ID: Spectro Ciros01 Date: 11/22/2002
 Preparation Method: NP1
 Concentration Units (ug/L or mg/kg): UG/L

Analyte	Wave-Length /Mass	CRQL	MDL
Aluminum	394.40	200	9.1
Antimony	206.83	60	4.7
Arsenic	189.04	15	2.7
Barium	233.53	200	0.50
Beryllium	313.11	5	0.040
Cadmium	226.50	5	0.300
Calcium	318.13	5000	15.4
Chromium	267.72	10	0.50
Cobalt	228.62	50	0.50
Copper	324.75	25	3.1
Iron	261.19	100	11.7
Lead	168.22	10	3.8
Magnesium	279.08	5000	4.3
Manganese	257.61	15	0.20
Nickel	231.60	40	0.80
Potassium	766.49	5000	5.9
Selenium	196.09	35	8.9
Silver	328.07	10	0.50
Sodium	330.24	5000	175.0
Thallium	190.86	25	3.2
Vanadium	292.40	50	0.60
Zinc	213.86	60	2.0

USEPA - CLP

9-IN

043

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: Bonner Analytical Testing Compa Contract: 68W02067

Lab Code: BONNER Case No.: 32024 NRAS No.: SDG NO.: ME2DN0

Instrument Type: P Instrument ID: Spectro Ciros01 Date: 11/22/2002

Preparation Method: HS2

Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Wave-Length /Mass	CRQL	MDL
Aluminum	394.40	40	0.91
Antimony	206.83	12	0.47
Arsenic	189.04	3	0.27
Barium	233.53	40	0.05
Beryllium	313.11	1	0.004
Cadmium	226.50	1	0.032
Calcium	318.13	1000	1.5
Chromium	267.72	2	0.05
Cobalt	228.62	10	0.05
Copper	324.75	5	0.31
Iron	261.19	20	1.17
Lead	168.22	2	0.38
Magnesium	279.08	1000	0.43
Manganese	257.61	3	0.02
Nickel	231.60	8	0.08
Potassium	766.49	1000	0.59
Selenium	196.09	7	0.89
Silver	328.07	2	0.05
Sodium	330.24	1000	17.5
Thallium	190.86	5	0.32
Vanadium	292.40	10	0.06
Zinc	213.86	12	0.20

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: Bonner Analytical Testing Compa Contract: 68W02067

ab Code: BONNER Case No.: 32024 NRAS No.: SDG NO.: ME2DN0

Instrument Type: P Instrument ID: Spectro Ciros01 Date: 11/22/2002

Preparation Method: HS2

concentration Units (ug/L or mg/kg): UG/L

Analyte	Wave-Length /Mass	CRQL	MDL
Aluminum	394.40	200	9.1
Antimony	206.83	60	4.7
Arsenic	189.04	15	2.7
Barium	233.53	200	0.50
Beryllium	313.11	5	0.040
Cadmium	226.50	5	0.300
Calcium	318.13	5000	15.4
Chromium	267.72	10	0.50
Cobalt	228.62	50	0.50
Copper	324.75	25	3.1
Iron	261.19	100	11.7
Lead	168.22	10	3.8
Magnesium	279.08	5000	4.3
Manganese	257.61	15	0.20
Nickel	231.60	40	0.80
Potassium	766.49	5000	5.9
Selenium	196.09	35	8.9
Silver	328.07	10	0.50
Sodium	330.24	5000	175.0
Thallium	190.86	25	3.2
Vanadium	292.40	50	0.60
Zinc	213.86	60	2.0

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9-IN

045

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: Bonner Analytical Testing Compa Contract: 68W02067

Lab Code: BONNER Case No.: 32024 NRAS No.: _____ SDG NO.: ME2DN0

Instrument Type: CV Instrument ID: Leeman01 Date: 11/6/2002

Preparation Method: CS1

Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Wave-Length /Mass	CRQL	MDL
Mercury	253.70	0.10	0.038

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9-IN

046

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: Bonner Analytical Testing Compa Contract: 68W02067

Lab Code: BONNER Case No.: 32024 NRAS No.: SDG NO.: ME2DNO

Instrument Type: CV Instrument ID: Leeman01 Date: 11/6/2002

Preparation Method: CS1

concentration Units (ug/L or mg/kg): UG/L

Analyte	Wave-Length /Mass	CRQL	MDL
Mercury	253.70	0.20	0.076

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12-IN

050

PREPARATION LOG

Lab Name: Bonner Analytical Testing CompContract: 68W02067Lab Code: BONNERCase No.: 32024

NRAS No.: _____

SDG NO.: ME2DN0Preparation Method: HS2

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
PBS01	8/27/2003	1.00	100
LCSS01	8/27/2003	1.05	100
ME2DN0	8/27/2003	1.01	100
ME2DN0D	8/27/2003	1.01	100
ME2DN0S	8/27/2003	1.02	100
ME2DN1	8/27/2003	1.02	100
ME2DN2	8/27/2003	1.05	100
ME2DN3	8/27/2003	1.04	100
ME2DN4	8/27/2003	1.01	100
ME2DN5	8/27/2003	1.03	100
ME2DN6	8/27/2003	1.03	100

Comments: _____

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION V

ESD Central Regional Laboratory
Data Tracking Form for Contract SamplesSample Delivery Group: HE2DND CERCLIS No: TBDCase No: 32024 Site Name/Location: FANSTEEL Vulcan MATERIALSContractor or EPA Lab: BONNER Data User: TELETA TechNo. of Samples: 7 Date Sampled or Date Received: 9-3-03Have Chain-of-Custody records been received? Yes No Have traffic reports or packing lists been received? Yes No If no, are traffic report or packing list numbers written on the Chain-of-Custody Record?
Yes No

If no, which traffic report or packing list numbers are missing?

Are basic data forms in? Yes No No of samples claimed: 7 No. of samples received: 7Received by: Eva M. Dixon/ESDT Date: 9-3-03Received by LSSS: Eva M. Dixon/ESDT Date: 9-3-03Review started: 9-15-03 Reviewer Signature: [Signature]Total time spent on review: 11 Date review completed: 9-16-03Copied by: Eva M. Dixon/ESDT Date: 9-17-03Mailed to user by: Eva M. Dixon/ESDT Date: 9-17-03DATA USER:

Please fill in the blanks below and return this form to:

Sylvia Griffin, Data Mgmt. Coordinator, Region V, ML-10C

Data received by: _____ Date: _____

Data review received by: _____ Date: _____

Inorganic Data Complete

[] Suitable for Intended Purpose [] if OK

Organic Data Complete

[] Suitable for Intended Purpose [] if OK

Dioxin data Complete

[] Suitable for Intended Purpose [] if OK

SAS Data Complete

[] Suitable for Intended Purpose [] if OKPROBLEMS: Please indicate reasons why data are not suitable for your uses.

Received by Data Mgmt. Coordinator for Files. Date: _____



Tetra Tech EM Inc.

200 E. Randolph Drive, Suite 4700 ♦ Chicago, IL 60601 ♦ (312) 856-8700 ♦ FAX (312) 938-0118

MEMORANDUM

Date: September 15, 2003

To: Raghu Nagam, Project Manager, TN & Associates, Inc.
Superfund Technical Assessment and Response Team (START) for Region 5

From: Harry Ellis, Chemist, Tetra Tech START for Region 5

Subject: Data Validation for
Fansteel/Vulcan Materials Site
North Chicago, Illinois
Analytical Technical Direction Document (TDD) No. S05-0308-005
Project TDD No. S05-0302-017

Laboratory: Great Lakes Analytical (Great Lakes), Buffalo Grove, Illinois
Work Order No. B308390
Tantalum Analysis of Seven Soil Samples

1.0 INTRODUCTION

The Tetra Tech START for Region 5 validated tantalum analytical data for seven soil samples collected on August 21, 2003, at the Fansteel/Vulcan Materials site in North Chicago, Illinois. The samples were analyzed under the above-referenced work order by Great Lakes using U.S. Environmental Protection Agency (U.S. EPA) Method 1620 for tantalum analysis.

The data were validated in general accordance with U.S. EPA's "Contract Laboratory Program National Functional Guidelines for Inorganic Data Review" dated July 2002. Inorganic data validation consisted of a review of the following QC parameters: holding times, initial and continuing calibrations, blank results, inductively coupled plasma (ICP) interference check sample results, laboratory control sample (LCS) results, duplicate sample results, matrix spike/matrix spike duplicate (MS/MSD) results, and sample result quantitation.

Data Validation for
Fansteel/Vulcan Materials Site
Analytical TDD No. S05-0308-005
Project TDD No. S05-0302-017
Page 2

Section 2.0 discusses the results of the inorganic data validation, and Section 3.0 presents an overall assessment of the data. The attachment to this memorandum contains Great Lake's summary of analytical results.

2.0 INORGANIC DATA VALIDATION RESULTS

The results of START's inorganic data validation are summarized below in terms of the QC parameters reviewed.

2.1 HOLDING TIMES

The samples were analyzed for tantalum within the holding time limit of 6 months.

2.2 INITIAL AND CONTINUING CALIBRATIONS

The initial calibration result met the QC limit of a minimum 0.995 correlation coefficient. All continuing calibration results were within the QC limit of 90 to 110 percent recovery.

2.3 BLANK RESULTS

Appropriate blanks, such as initial calibration blanks, continuing calibration blanks, and preparation blanks, were run with each analytical batch. No significant concentrations of tantalum were detected in the blanks.

2.4 ICP INTERFERENCE CHECK SAMPLE RESULTS

ICP interference check sample analyses were performed as required and yielded acceptable results.

Data Validation for
Fansteel/Vulcan Materials Site
Analytical TDD No. S05-0308-005
Project TDD No. S05-0302-017
Page 3

2.5 LCS RESULTS

The LCS result was within the QC limit of 80 to 120 percent recovery.

2.6 DUPLICATE SAMPLE RESULTS

No method duplicate samples were analyzed, but the precision result for the MS/MSD analyses was acceptable. No qualifications are warranted for this data gap.

2.7 MS/MSD RESULTS

MS and MSD soil samples from another site were analyzed for tantalum. Recoveries were 10.6 and 9.0 percent, respectively, well below the QC limits of 75 to 125 percent. Because the soil sample used in the MS/MSD analysis was from another site and may represent a different sample matrix, no qualifications are warranted.

2.8 SAMPLE RESULT QUANTITATION

The reporting limits listed in the analytical report were spot-checked, and the calculations were found to be correct.

3.0 OVERALL ASSESSMENT OF DATA

The sample analytical data generated by Great Lakes are acceptable as reported.

ATTACHMENT

GREAT LAKES SUMMARY OF SAMPLE ANALYTICAL RESULTS

(One Sheet)

Tetra Tech EMI - IL
200 E. Randolph Suite 4700
Chicago, IL 60601

Project: Fansteel/Vacant Lot
Project Number: S05-0302-017
Project Manager: Lisa Graczyk

Revised Report Date:
09/05/03 07:50

Total Tantalum by EPA Method 1620
Great Lakes Analytical-Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB1-1, Boring 1 (B308390-01) Soil Sampled: 08/21/03 11:20 Received: 08/22/03 16:15									
Tantalum	ND	2.73	mg/kg dry	1	3080805	08/29/03	08/29/03	EPA 1620	QC
SB1-2, Boring 1 Deep (B308390-02) Soil Sampled: 08/21/03 11:25 Received: 08/22/03 16:15									
Tantalum	ND	2.67	mg/kg dry	1	3080805	08/29/03	08/29/03	EPA 1620	QC
SB2-1, Boring 2 (B308390-03) Soil Sampled: 08/21/03 13:30 Received: 08/22/03 16:15									
Tantalum	ND	2.72	mg/kg dry	1	3080805	08/29/03	08/29/03	EPA 1620	QC
SB2-2, Boring 2 Deep (B308390-04) Soil Sampled: 08/21/03 13:35 Received: 08/22/03 16:15									
Tantalum	ND	3.15	mg/kg dry	1	3080805	08/29/03	08/29/03	EPA 1620	QC
SB2-1D, Boring 2 (B308390-05) Soil Sampled: 08/21/03 13:40 Received: 08/22/03 16:15									
Tantalum	ND	2.72	mg/kg dry	1	3080805	08/29/03	08/29/03	EPA 1620	QC
SB3-1, Boring 3 (B308390-06) Soil Sampled: 08/21/03 14:10 Received: 08/22/03 16:15									
Tantalum	ND	2.86	mg/kg dry	1	3080805	08/29/03	08/29/03	EPA 1620	QC
SB3-2, Boring 3 Deep (B308390-07) Soil Sampled: 08/21/03 14:15 Received: 08/22/03 16:15									
Tantalum	ND	2.91	mg/kg dry	1	3080805	08/29/03	08/29/03	EPA 1620	QC

Great Lakes Analytical-Buffalo Grove

Andy Johnson, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

APPENDIX C
REMOVAL COST PROJECTION
(1 Sheet)

REMOVAL COST PROJECTION
VACANT LOT SITE, NORTH CHICAGO, ILLINOIS
TDD#:S05-0302-017

ESTIMATED VOLUME OF CONTAMINATED SOIL	6,276 yd ³
10% CONTINGENCY VOLUME	627.6 yd ³
TOTAL VOLUME	6903.6 yd ³
30 WORK DAYS (15 or 16 TRUCKS/DAY)	460 LOADS

EXCAVATION AND DISPOSAL

MOBILIZATION

Mob of Personnel (\$85 x 6 people)	\$510.00
Mob Track Loader (\$500/mob/demob x 2 times)	\$1,000.00

LABOR (30 Days x 10hrs/day = hrs/per person)

Equipment Operator (\$70 x 300 hrs x 2 people)	\$42,000.00
Clean up crew (\$50 x 300 hrs x 2 people)	\$30,000.00
Field Clerk (\$50 x 340 hrs x 1 person)	\$17,000.00
Remediation Manager (\$85 x 300 hrs x 1 person)	\$25,500.00
EPA Contractor oversight (\$85 x 300 hrs x 1 person)	\$25,500.00
EPA (\$65 x 400 hrs x 1 person)	\$26,000.00
Site Prep and Completion Report (\$85 x 250 hrs)	\$21,250.00

OTHER FIELD COSTS

Miscellaneous expenses	\$100,000.00
PerDiem (100/day/person x 30 days x 6 people)	\$18,000.00
Soil Samples (1 sample/200 yd ³ soil, 35 + 50 Confirmation = \$250 x 85 samples)	\$21,250.00

EQUIPMENT

Trailers (\$2,000/month)	\$2,000.00
Truck Rental (\$1600 x 2)	\$3,200.00
PPE (3/day x 30 days x 2 people) - Including: Tyvek, booties, and gloves	\$1,155.00
5 Kilowatt Generator (\$55/day)	\$1,650.00
PID Monitor (\$30/day x 30 days)	\$900.00
Mini RAM Dust Monitor (\$26/day x 30 days)	\$780.00
2.5 yd ³ Track Loader (\$8,000/month x 2 loaders)	\$16,000.00

TREATMENT AND DISPOSAL

Out of 6,903.6 yd ³ , assume 350 yd ³ hazardous	
Hazardous soil (T&D = \$150/ton x 350 yd ³)	\$52,500.00
Non-hazardous soil (\$41/ton x 6550 yd ³)	\$262,000.00
Transportation (\$475/15 yd ³ load x 460 loads)	\$218,500.00
Backfill (6903.6 yd ³ x 15% compaction = 7939.14 yd ³ x 8.5/yd ³)	\$67,482.69
Total	\$954,177.69
%15 Contingency costs	\$143,126.65
Total Costs	\$1,097,304.34

Cost estimate completed by T N & Associates, Inc.
Transportation and Disposal quote provided by Envirite of Illinois, Inc.